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# Warsaw Pact Forces Opposite NATO

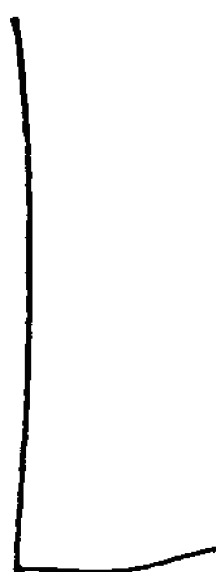
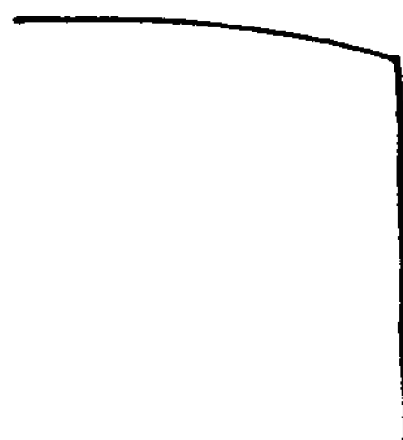
National Intelligence Estimate  
Volume I—Summary Estimate

CIA HISTORICAL REVIEW PROGRAM  
RELEASE AS SANITIZED

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NIE 11-14-79  
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31 January 1979

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THE NATIONAL FOREIGN INTELLIGENCE BOARD CONCURS, EXCEPT AS NOTED IN THE TEXT.

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The Central Intelligence Agency, the intelligence organizations of the Departments of State and Defense, and the National Security Agency.

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NIE 11-14-79

WARSAW PACT FORCES  
OPPOSITE NATO

Volume I—Summary Estimate

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## PREFACE

This National Intelligence Estimate was prepared primarily to satisfy the need expressed by US policymakers and planners for a reference document that would record current estimates of Warsaw Pact forces and intelligence judgments about the way these forces would be employed in a war with NATO. It is intended to provide a baseline for any further studies comparing NATO and Pact forces.

This NIE is the first comprehensive estimate of Warsaw Pact forces opposite NATO since 1971. It is the first to attempt an analysis of Pact campaign plans for the European theaters of military operations and the first to integrate naval forces into these campaigns. It deals primarily with conventional forces and operations; it describes nuclear forces but provides only limited treatment of theater nuclear operations.

The NIE is in two volumes. This volume is a summary of the Estimate. Volume II presents a detailed discussion of Pact doctrine, theater forces, and operational concepts for war in Europe. It also describes the main developments and trends in Pact theater forces and discusses those issues which bear most directly on the capabilities of Pact forces to perform their missions.

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## SCOPE NOTE

National Intelligence Estimate 11-14-79 is concerned with Warsaw Pact forces that are available for use against NATO.\* It assesses the present and future capabilities of these forces for conventional, chemical, and theater nuclear warfare. It generally covers a period of five years in its future considerations but extends to 10 years where the information allows. The Estimate does not provide detailed treatment of Soviet forces along the Sino-Soviet border, the Soviet Pacific Fleet, or other forces in the Soviet Far East. Soviet military operations in distant areas during a NATO-Warsaw Pact war are considered in an annex to volume II.

The Estimate treats the following elements of the Pact's military forces:

- Ground Forces. The ground forces (including airborne and heliborne forces) of the USSR, East Germany, Poland, Czechoslovakia, Hungary, Romania, and Bulgaria and their organic air defense and tactical nuclear systems.
- Air and Air Defense Forces. Soviet Frontal (tactical) Aviation, Military Transport Aviation, and the bombers of Soviet Long Range Aviation, as well as the tactical air and national air defense forces (including ground-based systems) of the non-Soviet Warsaw Pact (NSWP) countries.
- Naval Forces. The general purpose submarines, surface ships, aircraft, auxiliaries, and amphibious forces of the three western Soviet fleets and the NSWP navies.
- Soviet Ballistic Missile Forces for Peripheral Attack. Those Soviet land-based (MRBMs, IRBMs, and ICBMs) and submarine-launched (SLBMs) ballistic missiles which are available for use against NATO in the European theater.

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\*For the purpose of this Estimate, Pact general purpose ground and air forces available for early use against NATO include those located in the non-Soviet Warsaw Pact (NSWP) nations and in the USSR's Baltic, Belorussian, Carpathian, Leningrad, Odessa, Kiev, North Caucasus, and Transcaucasus Military Districts. Forces in the Moscow, Volga, Ural, and Turkestan Military Districts could be used against NATO or elsewhere. Also included in this Estimate are Pact general purpose naval forces in the three western Soviet fleets, including the Mediterranean Squadron, and the NSWP navies, as well as Soviet strategic forces which could be employed against European targets in a peripheral attack role.

- Support Functions. Those activities and organizations which support and integrate Pact forces, such as command, control, and communications systems and logistic services.

Other recently completed National Intelligence Estimates and Interagency Intelligence Memorandums contain comprehensive assessments of some issues that are given summary treatment in this document.

- NIE 11-4-78, *Soviet Goals and Expectations in the Global Power Arena*, describes the broad strategic and political considerations which shape the Soviet defense posture.
- NIE 4-1-78, *Warsaw Pact Concepts and Capabilities for Going to War in Europe: Implications for NATO Warning of War*, assesses Pact attack options in Central Europe and the intelligence basis for our estimate of NATO's warning time there.
- NIE 11-3/8-78, *Soviet Capabilities for Strategic Nuclear Conflict Through the Late 1980s*, and NIE 11-6-78, *Soviet Strategic Forces for Peripheral Attack*, contain detailed estimates of Soviet strategic forces available for use against NATO.
- NIE 11-10-79, *Soviet Military Capabilities To Project Power and Influence in Distant Areas*.
- NI IIM 78-10018J, *Indications and Warning of Soviet Intentions To Use Chemical Weapons During a NATO-Warsaw Pact War*.

## KEY JUDGMENTS

### Warsaw Pact Policy and Doctrine for Theater Warfare

1. It is Soviet policy to acquire and maintain forces capable of successfully fighting either a conventional or nuclear war in Europe and to keep a clear numerical advantage over NATO in important military assets. Soviet leaders stress the need for large, combat-ready forces to be in place at the outset of hostilities. They intend any future European conflict to take place on Western, not Eastern, territory. (I, 1-2)<sup>1</sup>

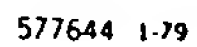
2. The Soviet Union views control of its East European allies as vital to its national interests. The East European members of the Pact provide sizable forces and a territorial buffer between NATO and the Soviet Union. (See figure 1.) The presence or proximity of large, well-equipped Soviet forces gives the Soviets considerable leverage in exerting control over these countries, thus safeguarding the integrity of the Warsaw Pact. The Soviets also value their military strength as a means of influencing European domestic and foreign policy decisions and deterring political or military developments which might alter the balance of power to their disadvantage. They do not, however, measure the military balance in Europe in isolation from the larger, global balance and, accordingly, are inclined to be very cautious in the use of military force in Europe. (I, 2-3)

3. Our analysis of Soviet nuclear policy and doctrine has led us to the following judgments:

- The Soviets believe that the initial stages of a conflict probably would be conventional, and they would prefer that a NATO-Pact conflict remain nonnuclear, but they expect that it would eventually involve the use of nuclear weapons. (I, 10)
- There is evidence that the Soviets now have a more flexible policy for the use of tactical nuclear weapons, but they apparently have not sought to match NATO's capacity for accurate and selective use of very low yield nuclear weapons, and they remain profoundly skeptical of the possibility of controlling escalation. (I, 12)

<sup>1</sup> References are to chapters (Roman numbers) and paragraphs (Arabic numbers) in volume II of the Estimate.

Figure 1





- We cannot predict how the Soviets would respond to a limited and selective NATO use of nuclear weapons or the conditions under which the Soviets might initiate nuclear operations in a NATO-Pact war. (I, 13-14)
- Preemption continues to be a feature of Soviet nuclear doctrine. (I, 15)
- Improvements in the USSR's forward-based nuclear forces would permit the Soviets to fight a tactical nuclear war at relatively high levels of intensity without having to use USSR-based systems. Nonetheless, the Soviets' continued modernization of USSR-based peripheral strike systems [ ] argues that they still expect to have to resort to the use of these weapons at some stage of theater nuclear war. (I, 16)

4. The Soviets are clearly planning against the contingency that chemical weapons might be used in a war between NATO and the Warsaw Pact. They have a continuing, vigorous program to equip and train Pact forces for operations in a toxic environment and have produced a variety of chemical agents and delivery systems. We are divided, however, on the question of Soviet policy for the first use of chemical weapons. Some believe<sup>2</sup> that it is unlikely that the Warsaw Pact would initiate offensive chemical warfare before the advent of nuclear war, but that the Pact's first use under these circumstances cannot be entirely excluded. Others believe<sup>3</sup> there is a strong possibility that the Soviets would initiate chemical warfare in a conventional conflict. Chapter I of volume II contains the rationale underlying these views. (I, 18-29)

#### Trends in Warsaw Pact Theater Forces

5. The past decade was marked by vigorous modernization of Soviet theater forces facing NATO. This modernization was accompanied by some increase in the manpower of the forces—especially in the late 1960s and early 1970s—as the number of weapons in units was increased and as support requirements grew to accommodate more, increasingly sophisticated hardware. Modernization of the Soviet theater forces is evidently continuing at much the same pace, along with modest, commensurate growth in manpower. The non-Soviet Warsaw Pact (NSWP) forces have shared in the Soviet buildup, although at a

<sup>2</sup> The holders of this view are the Central Intelligence Agency and the Director, Bureau of Intelligence and Research, Department of State.

<sup>3</sup> The holders of this view are the Director, Defense Intelligence Agency; the Director, National Security Agency; and the Senior Intelligence Officers of each of the military services.



slower pace and with uneven results, especially in the more expensive tactical air and missile forces and in ground force armor replacement programs. (VI, 1)

6. Motivated by the prospect of a nonnuclear phase of hostilities and their recognition of a need for strong conventional forces even in the event of nuclear war, the Soviets have especially sought to improve their conventional force capabilities. Since the late 1960s they have significantly increased manpower, tanks, artillery, armed helicopters, and air defense. They have been equipping their tactical air forces with aircraft having increased performance and load-carrying capacity. During this period the flexibility and conventional war potential of Soviet naval forces also have been improved by the acquisition of more capable ships, submarines, and aircraft. (I, 37)

7. At the same time, the Soviets have continued to increase the size of their theater nuclear forces and improve their flexibility. Since the early 1970s they have introduced nuclear-capable artillery systems, increased their surface-to-surface tactical missile launchers in Central Europe, assigned nuclear missions to additional tactical aviation units, and are deploying a new-generation intermediate-range ballistic missile and a new bomber. The Soviet Navy has also added systems which improve its capability to wage theater nuclear war. (I, 39)

8. Pact theater forces have emerged from a decade of change with their fundamental orientation on the tank intact, but with a more balanced structure for conventional war and with both conventional and nuclear firepower greatly increased. These changes, along with an infusion of more modern technology, have made Soviet theater forces competitive with leading Western armies in sophistication of organization and equipment. (I, 43)

9. Our analysis of these developments permits the following additional conclusions:

- The Soviets are aware of the improved technology and growing numbers of NATO antitank weapons, but this awareness has not led to any diminution of their tank forces or any major change in the way they see these forces performing. Indeed, they have made even further increases to their tank strength and have begun producing new tank models. (II, 7)
- The Soviets are pursuing a vigorous program to increase the effectiveness of their air munitions to exploit the enhanced capabilities of their newer aircraft. The role of Frontal Aviation for delivering tactical nuclear weapons clearly is expanding. (II, 89 and 158)

- The Soviet Navy in the past decade has significantly improved its capability to participate in a Pact-NATO war and now can undertake combat operations at greater distances from home waters. The introduction of new classes of submarines, Backfire bombers, and new missile systems has especially improved the Soviet Navy's strike capability against NATO surface forces. (II, 100)
- Since the late 1960s the Pact has adopted a unified command and control doctrine and has begun to modernize its command and control procedures and equipment. ((I, 41)
- Pact ground force logistic capacity has also been improved, notably by large additions to motor transport and the development of improved support organizations and equipment. (I, 42)

10. We have also identified the following significant weaknesses which could adversely affect the performance of Pact theater forces:<sup>4</sup>

- Pact tactical air pilots are not as effectively trained—by US standards—as they should be to exploit fully the capabilities of the airframes and weapon systems of the third-generation aircraft currently in operation. (II, 69)
- Lack of automated equipment, or other means for timely and accurate location and reporting of mobile or semimobile targets, is believed to be a current weakness of Soviet aerial reconnaissance. (II, 86)
- The USSR's antisubmarine warfare (ASW) capabilities on the whole are such that its forces in most wartime situations would probably be unable to detect the presence of US and most other NATO submarines before attacks on Soviet surface ships. Crucial shortcomings are lack of long-range submarine detection devices, high radiated noise levels of Soviet submarines relative to those of the West, and lack of seaborne tactical air cover to protect deployed surface ship ASW forces. (II, 128)

### Warsaw Pact Strategy for Initial Conventional Operations Against NATO

11. The USSR has developed contingency plans for military operations on all Pact land frontiers. The Soviets clearly expect Central Europe to be the decisive arena in a war with NATO and assign it the

<sup>4</sup> Additional weaknesses which some agencies have identified can be found in the "Issues" section on pages 14-19 and in the discussions of those issues in the body of the Estimate.

highest priority in the allocation of military manpower and equipment. The Soviets also have plans for offensive action in other NATO regions, but we have little direct evidence on the Pact's view of the timing of these flank offensives in relation to an offensive in Central Europe. We judge, however, that the Pact would be unlikely to start a war by mounting major ground offensives against all NATO sectors simultaneously. To do so would unnecessarily extend available Pact forces, airlift, and air and logistic support and would complicate command and control at the General Staff and Supreme High Command levels. Moreover, there would be political considerations that would lead the Soviets to defer attacks on some NATO countries in the hope of encouraging their nonbelligerence. (IV, 2-4)

12. We believe that the need for unfettered naval operations from their Northern Fleet bases would almost certainly cause the Soviets to strike NATO facilities in northern Norway, and probably to attempt to occupy some territory there, and that the urgency of this need would lead them to do so concurrently with starting an attack in Central Europe. We would also expect concurrent attacks on US naval forces in the Mediterranean. None of the other potential flank offensives appear to have that degree of urgency, although the Pact would be likely to move against the Turkish Straits early in a war. (IV, 5)

13. The Warsaw Pact's success in achieving its wartime objectives would depend on its ability to control and coordinate multinational, joint-service operations of great complexity. [ ] our assessment of the system's strengths and weaknesses leads us to judge that it is adequate to alert forces and control mobilization, and to control combat operations. This assessment is discussed in detail in chapter III of volume II. (III, 1-31)

14. The ultimate authority for the direction of the Soviet military rests with the Politburo and the Soviet General Staff, but we believe that should a war occur between the Warsaw Pact and NATO, theater-level commands would be established and exercise direct operational control over fronts and fleets and at least some degree of control over those strategic assets allocated to support theater operations. Unlike NATO, the Warsaw Pact does not have theater headquarters in being in peacetime, although hardened command posts have been constructed for at least some Pact wartime headquarters. (III, 4-6)

15. Arrangements for exercising control of Pact forces within what the Soviets call the Western (or European) Theater of War have been evolving over the last few years. We now have evidence that indicates

the commander in chief of the combined armed forces of the Warsaw Pact would control all Pact forces in this theater in wartime. The Soviets plan to divide the Western Theater of War into three land Theaters of Military Operations (TVDs) in which they expect Pact and NATO forces to come in conflict. These would include a Northwestern TVD (the Leningrad Military District and the Scandinavian Peninsula); a Western TVD (East Germany, Poland, Czechoslovakia, and the western USSR in the east and West Germany, the Benelux countries, Denmark, and possibly France in the west); and a Southwestern TVD (Greece, Turkey, and probably northern Italy and Austria). An area in the Norwegian Sea north of the Greenland-Iceland-United Kingdom (G-I-UK) gap probably would be designated a Maritime TVD, and would include the Northern Fleet. The forces of the Baltic and Black Sea Combined Fleets initially would be under the control of the Western and Southwestern TVD headquarters—often called High Commands by the Soviets. The senior field command would be the front, an organization which is similar to a NATO army group in size, level of command, and function and which consists of three to five ground armies and an air army of 600 aircraft. (III, 7-10)

16. Our consideration of likely Pact operations in the Western TVD during the initial phase of a conventional war has resulted in the following key findings:

- Soviet military strategy calls for a massive and rapid ground offensive into NATO territory in Central Europe to defeat NATO forces, disrupt mobilization, and seize or destroy ports and airfields to prevent reinforcement. (IV, 7)
- Except in extraordinarily urgent circumstances, the Pact would prefer to prepare at least a three-front force before initiating hostilities in Central Europe. We believe the Pact would begin to organize at least five fronts for use in Central Europe from the time of the decision to go to full readiness. There is virtually no chance the Soviets would attack from a standing start.<sup>5</sup> (IV, 10-22)
- Pact planners regard early attainment of air superiority and destruction of much of NATO's tactical nuclear forces to be critical to the Pact's chances for victory in the theater. The Pact plans to achieve these objectives by conducting a large-scale, theaterwide conventional air offensive during the first several days of hostilities. (IV, 43-85)

<sup>5</sup> NIE 4-1-78, *Warsaw Pact Capabilities for Going to War in Europe: Implications for NATO Warning of War*, provides the detailed rationale for these conclusions.

- The broad objectives of Pact naval operations in the Baltic would be to gain complete control of the Baltic Sea and access to the North Sea to sever NATO's lines of communication in the North Sea, and deprive NATO of potential launch areas for carrier strikes against Pact air and ground forces in the Central Region. Failure to obtain air superiority and sea control probably would force the Pact to reconsider its planned amphibious operations in the western Baltic. (IV, 86-111)

17. As for operations in the Southwestern TVD, our conclusions are as follows:

- The Pact would confine its initial ground operations to the Turkish Straits area, Austria, and possibly eastern Turkey. In addition, at the onset of a war, air and naval attacks would almost certainly be mounted against NATO forces in these areas and in the Mediterranean. (IV, 116-125)
- The Pact views early seizure of the Turkish Straits as crucial to the success of its maritime strategy in the Southwestern TVD. (IV, 113)
- While the Soviets might launch a limited offensive into eastern Turkey, we have no evidence that they would undertake operations against Iran during an initial phase. (IV, 123)
- Soviet naval operations in the Mediterranean would begin at the start of a war and would be aimed primarily at the destruction of Western ballistic missile submarines (SSBNs) and aircraft carriers. (IV, 131)
- While the most immediate threat would come from Soviet ships and submarines already deployed in the Mediterranean, numerically the most sizable threat to NATO's naval forces there would come from missile-equipped Soviet strike aircraft, despite the fact that they would be operating without fighter escort. (IV, 135)

18. We have good evidence that as part of the offensive by the Pact's Maritime Front, the Soviet Black Sea Fleet would attempt to secure control of the Black Sea, support the movement of Pact ground forces along the western littoral, and assist in seizing the Turkish Straits. To assist in the achievement of air and sea superiority and to protect the amphibious force, the Soviets probably would retain in the Black Sea at least some of their available larger combatants equipped for ASW and with surface-to-air missiles (SAMs)—such as Moskvas, Karas, Kashins, and Krivaks. There is disagreement in the Intelligence Community on the numbers of large surface combatants which would be retained in



the Black Sea rather than deployed to the Mediterranean before the outbreak of hostilities. (IV, 126 and 142-144)

19. In the Northwestern TVD our information indicates that:

- Initial Soviet objectives in the Northwestern TVD center on ensuring freedom of action and uninhibited access to the open ocean for Soviet naval ships and aircraft and on maintaining the forward defense of the extensive complex of naval bases and strategic installations located on the Kola Peninsula. (IV, 145)
- Initial operations by Soviet land forces probably would be limited to northern Norway. We have no evidence indicating that the Soviets plan for a general offensive against Finland or Sweden early in a war. (IV, 150-153)
- Soviet amphibious ships carrying up to a regiment of Soviet naval infantry probably would attempt to seize limited objectives along the northern Norwegian coast. Initial amphibious operations probably would be confined to the coast of Finnmark, under conditions suitable for an early linkup with the ground forces. (IV, 148)
- The Soviets probably would not attempt a large-scale airborne assault in northern Norway, because the demands for air transport elsewhere against NATO probably would preclude early use of a formation as large as a complete airborne division. (IV, 154)

20. Soviet strategy in the North Atlantic calls for the early establishment of control of the Norwegian and Barents Seas and their approaches. Implementation of such a strategy probably would involve most of the Northern Fleet's submarines and virtually all of the surface forces and aircraft in an effort to exclude NATO forces from the area. The Soviets probably also plan some submarine operations farther into the North Atlantic to prevent transit of NATO carriers and amphibious task groups and to divert NATO naval strength. The Soviets would attempt to neutralize Western SSBNs near their bases and in the Norwegian Sea before they could launch their missiles. To this end they probably would initiate submarine and air operations against NATO naval forces as they exit their bases in Europe and possibly against SSBNs from US bases as well. In addition, at least some submarines would attack shipping engaged in resupply and reinforcement of Europe early in a war. There is disagreement in the Intelligence Community over the extent to which the Soviets would wage an interdiction campaign and over their capabilities for doing so. (IV, 157-200, and II, 142-149)

## Theater Nuclear Operations

21. The primary objective in Soviet tactical nuclear planning appears to be the destruction of military targets, particularly NATO's means for waging nuclear war. Limiting collateral damage does not appear to be a main concern [

]

## Prospects for Warsaw Pact Theater Forces

22. In this Estimate we do not provide a detailed analysis of the factors that motivate the Soviets' military policy toward Europe and the development of their theater forces. These factors are discussed in detail in NIE 11-4-78, *Soviet Goals and Expectations in the Global Power Arena*. We proceed from the premise that the developments we currently observe in Warsaw Pact theater forces opposite NATO represent the sorts of activities necessary to maintain and gradually improve the capabilities of these large standing forces. They are the activities necessary to replace obsolete or wornout equipment and to incorporate new weapons and tactics which flow from a vigorous Soviet research and development program. They portend no large, short-term change in the general size or character of these forces. (VI, 2)

23. Although we believe this to be a valid premise, we have examined a number of factors which conceivably could alter it:

- Nothing in NATO's current or foreseeable defense programs is likely to precipitate any major change in the level of Pact efforts. Over the longer term, however, a large-scale deployment by NATO of a new theater nuclear delivery system (such as a ground-launched cruise missile) could cause an upswing in Pact efforts, especially in air defense. (VI, 4)
- New Soviet leaders will undoubtedly emerge from the ranks of the present group, which is responsible for creating current Pact forces and is committed to maintaining Soviet military strength in Europe. The new leaders will likely seek to avoid moves that would antagonize large segments of the military. (VI, 5)
- Despite the decline in Soviet economic growth and the economic difficulties of such NSWP countries as Poland and Czechoslovakia, we find no evidence that suggests the Soviets will cut back resources for theater forces. Indeed, we have reliable evidence that some NSWP countries plan modest increases in defense spending. (VI, 7)

- During the next decade the number of young people reaching draft age each year will decline in most Pact countries, a trend that will complicate the allocation of manpower between the armed forces and industry, but this manpower squeeze is not expected to produce any decline in military personnel strength. (VI, 8-10)
- Despite continuing scientific advances we foresee no technological breakthrough that could lead to a major change in either the size or character of the Pact theater forces. (VI, 11)

24. Although the expansion in manpower which characterized Pact theater forces during the mid-1960s and early 1970s has slowed, we expect some gradual increase in manpower in Pact ground and air combat units opposite NATO over the next decade as ongoing programs are implemented. The overall number of ground and air combat units opposite NATO is expected to remain at or near its current level, while a modest decline is anticipated in the number of general purpose naval ships and submarines. (VI, 14)

25. Warsaw Pact nations will continue to improve the weapons and equipment in their theater forces opposite NATO. Major weapon production and deployment programs which are clearly in midstream are expected to continue. In addition, the Soviets will no doubt seek to develop some entirely new weapons and support systems. Certain of these systems, such as laser or television-guided munitions, are already in testing. Still other Pact weapons—such as enhanced radiation weapons and advanced cruise missiles—may emerge in reaction to NATO weapons programs or force improvements. (VI, 15)

26. *Ground Forces.* Barring an agreement on mutual and balanced force reductions (MBFR), the number and disposition of Pact ground force divisions opposite NATO are likely to remain stable during the period of this Estimate, although expanded divisional organizations and the formation of new nondivisional units probably will account for moderate increases in manpower and equipment. We foresee no development over the next several years which would appreciably alter the basic Pact strategy of an armor-heavy offensive against NATO in Central Europe. Despite NATO's substantial and growing capability for antitank warfare, Pact planners will continue to regard the tank as the backbone of their ground assault forces. (VI, 17)

27. *Tactical Air Forces.* We believe that the number of fixed-wing aircraft in Soviet Frontal Aviation opposite NATO will remain essentially unchanged over the next decade. Efforts to improve the quality of Soviet tactical aircraft and munitions are likely to continue, although the rate of new aircraft deployment is expected to slow as the



Soviets meet their current force objectives. Furthermore, we expect the Soviets to continue improving their support and subsidiary systems such as command and control, radioelectronic combat (REC), and reconnaissance data link systems. We expect in the next decade that several additional Soviet and NSWP combat helicopter regiments, primarily for ground attack, will be formed. No major changes are expected in the number of fixed-wing aircraft in the NSWP air forces. NSWP equipment modernization will continue to proceed gradually and be driven largely by economic considerations. (VI, 34)

28. *General Purpose Naval Forces.* During the next decade, developments in the Soviet Navy will produce a force with improved capabilities to perform its peacetime and wartime missions. The Soviets will have mixed success with programs to correct shortcomings in submarine detection, fleet air defense, logistic support, and communications. Developments over the past decade have been so rapid that a period of time may be required to integrate and consolidate advances and ensure that combat potentials are fully realized. We expect a modest decline in the overall number of Soviet general purpose naval ships and submarines but newer and more capable units will, be replacing older and less effective ones. (VI, 55)

29. *Theater Nuclear Forces.* Over the next decade the Soviets will continue their ongoing programs to improve their peripheral strategic strike forces and to eliminate the imbalance in battlefield nuclear capabilities they perceive in the European theater. Force improvement carried out to date and ongoing deployment of new systems are increasing the flexibility with which the Soviets can employ their theater nuclear forces. The introduction of nuclear-capable artillery will provide low-yield tactical nuclear weapons and delivery systems with sufficient accuracy to permit employment in close proximity to Pact forces. (VI, 90)

30. *Command, Control, and Communications.* We estimate that about one week currently would be required before the Pact's wartime communications links could be established to theater-level headquarters and to supporting strategic commands. Communications, between Moscow and the fronts and within the fronts, to control combat operations by divisions and armies could be effectively established within a few days. However, the Pact has two programs under way—the creation of a centralized command structure and the establishment of a unified communications system—which, during the period of this Estimate, could shorten the time required by the Pact to get its command and control system prepared for war. The two programs are intended to establish in peacetime the theater-level (High Command)

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resources needed to control Pact forces once they are released from national control. We estimate that the centralized command structure could be complete by the early 1980s. The unified communications system could begin to improve the Pact's command capabilities by the mid-1980s, but it is not scheduled for completion until 1990. (VI, 101)

## ISSUES

During the preparation of this Estimate disagreements among NFIB agencies arose on a number of issues—some key, most secondary—gists of which are contained in this section. Parenthetical references at the end of each gist are to chapters (Roman numbers) and paragraphs (Arabic numbers) in volume II of the Estimate.

a. Likelihood of Soviet Initiation of Chemical Warfare in a Conventional War. All agencies are agreed that, once widespread nuclear war began, the Warsaw Pact would not be constrained in its use of chemical weapons. With respect to the question of Soviet policy on the first use of chemical weapons before the advent of nuclear war, there are two views. CIA and State judge that it is unlikely the Pact would initiate such use, although the possibility cannot be entirely excluded. DIA, NSA, Army, Navy, and Air Force believe that there is a strong possibility of such use. (I, 24-29)

b. Number of Soviet Motorized Rifle Divisions (MRDs) That Have an Independent Tank Battalion (ITB). NSA, Army, and Air Force believe that all MRDs in Eastern Europe have an ITB.

Army and Air Force further believe that an ITB with an MRD would be standard in wartime. DIA and CIA estimate that two-thirds of the Soviet MRDs in Eastern Europe have ITBs but that few, if any, in the western USSR do.

(II, 12)

c. Success of Soviet Career Noncommissioned Personnel Programs. All agencies agree that the Soviets are seeking to induce conscripts to serve as career noncommissioned personnel upon completion of their mandatory service. CIA, NSA, and State conclude that the Soviets have had little success because of the harsh conditions of military service. DIA, Army, and Air Force believe that there is insufficient evidence to support conclusions about the planned scope of the Soviets' recruiting programs or their success in implementing them. They also believe that, with a combination of incentives on the one hand and pressure from the political organization on the other, the Soviets should be able to overcome any difficulties in recruiting career enlisted personnel. (II, 44-45)

d. Amount of Combat-Related Training in Soviet Air Units Stationed in East Germany. [

](II, 70)

e. Soviet Capability To Activate Reserve Submarines. CIA estimates that no reserve submarines with their crews could be brought to combat readiness in less than 90 days. DIA and Navy estimate that six to 10 reserve submarines could be brought to operational status in 30 days and a total of 25 to 30 submarines in 90 days. (II, 106)

f. Soviet Long-Range Airborne Antisubmarine Warfare (ASW) Capability. CIA and NSA estimate that the TU-142 Bear-F aircraft has an operational radius of about 2,050 nautical miles with three hours of on-station time and about 2,500 nm with no on-station time. DIA, Navy, and Air Force hold that the maximum radius with three hours of on-station time is 3,150 nm. (II, 131-132)

g. Extent, Emphasis, and Timing of the Soviet Interdiction Campaign Against NATO Sea Lines of Communications (SLOC). CIA, NSA, and State judge that the Soviets would not likely attempt a serious SLOC interdiction campaign unless they had previously defeated NATO carrier and amphibious forces without losing their submarines. NSA further believes that the extent and degree of an anti-SLOC campaign is largely scenario dependent and that in a prolonged crisis, where the outcome is in serious doubt, the attractiveness of SLOC interdiction in advance of a conflict goes up. DIA and Navy conclude that the Soviets consider SLOC interdiction of such significance, and their submarine inventory of sufficient size, as to warrant use of substantial numbers of attack submarines in this effort while accomplishing their other missions. (II, 142-146)

h. Soviet Capabilities To Execute a SLOC Interdiction Campaign. CIA and State estimate that the USSR's ability to attack merchant ships in the open ocean would be significantly constrained by submarine torpedo loads, lack of replenishment opportunities, turnaround time, long transits, combat attrition, and limited target information. DIA and Navy judge that these limitations are sensitive to the timing, manner, and level at which hostilities begin, but in any event are not sufficient to prevent the Soviets from mounting a significant SLOC threat. (II, 147)

i. Torpedo Capacities of Soviet Attack Submarines. In support of its position that Soviet SLOC interdiction capabilities are constrained by submarine torpedo capacities, CIA has produced a table (table II-9) which assumes that all submarines carry torpedoes 53 centimeters in diameter (7.8 meters long). DIA believes that two 40-cm torpedoes (4.5 m long) probably could be substituted for each of up to six of the longer torpedos in most classes, thereby substantially increasing wartime torpedo loads. (II, 147)

j. Role of the Backfire Bomber. CIA, State, NSA, and Navy estimate that the performance characteristics, deployment patterns, training programs, and exercise participation of the Backfire, as well as Soviet statements concerning this aircraft, point to peripheral strike as its primary mission. DIA, Army, and Air Force estimate that the Backfire is a long-range bomber with the capability to strike US targets on unrefueled range and radius missions. They agree that it will have significant peripheral missions but note that the Soviets have the option to use the Backfire's intercontinental capabilities. Thus, in their view, the Backfire poses a significant threat to the contiguous United States as well as to areas on the Soviet periphery. The reader is referred to NIE 11-3/8-78 for information on performance data. (II, 173-179)

k. Capabilities of Soviet Motor Transport in Wartime. CIA and State believe that the peacetime shortage of cargo vehicles in Category II and III divisions and in army- and front-level motor transport units and the heavy reliance in wartime on mobilized civilian trucks and reservist drivers point to potential weaknesses in the wartime logistic system, particularly in the early stages of a conflict. DIA and Army believe that the Estimate understates the capability of wartime Soviet motor transport. In support of this position they point out that the mobilization system provides for filling out lower category units with vehicles and drivers for war, that civilian trucks are often identical to those in military service, that Soviet vehicles designated for mobilization are inspected by military teams, that reservist drivers would be performing duties related to their civilian occupation, and that the Group of Soviet Forces in Germany already has a lift capability that exceeds its requirements. (II, 220-221)

l. Warsaw Pact Personnel Replacement System in Wartime. CIA, State, and NSA judge that unit replacement is the Warsaw Pact's preferred system for replacing combat personnel. DIA and Army believe that the Pact would use both an individual and a unit replacement system and that the system used in a particular case would depend upon the situation. They further believe that individual replacement would be used primarily in cases of steady, attrition-type

losses, while unit replacement would be used primarily in cases of large, sudden losses. (II, 231-232)

m. **Pact Initiation of War From a Two-Front Posture After Four Days of Preparation.** All agencies agree that, because four days would allow only minimal preparations, which would entail serious risks, the Pact would initiate war from this posture only in extraordinarily time-urgent circumstances. CIA and State believe that the Pact would take such action only if it perceived the threat of an imminent NATO attack. DIA, NSA, Army, Navy, and Air Force hold that the Soviets might choose to attack with the two-front force in a variety of urgent contingencies. A broader treatment of this issue is given in NIE 4-1-78. (IV, 13-18)

n. **Likely Effectiveness of a Warsaw Pact Air Offensive (the "Air Operation") in Central Europe.** CIA and State conclude that a massive Pact air offensive at the outset of a war would do considerable damage to NATO's air and air defense forces, but probably would not be so effective as to prevent NATO's air forces from being able to deliver nuclear weapons on a large scale. DIA and Air Force believe that no judgment with any useful level of confidence on the effectiveness of an air operation is possible at this time because we lack adequate analysis of the factors involved which apply to both NATO and the Pact and of the interaction of the forces of both sides. (IV, 85)

o. **Likely Effectiveness of Pact Operations To Achieve Air Superiority and Sea Control in the Baltic Sea.** CIA, NSA, and State conclude that the allocation of most Pact tactical and LRA bomber aircraft to a large-scale Air Operation in West Germany and the Benelux countries would severely reduce the probability of the Pact's achieving air superiority over the Baltic in the initial stage of a war. Also, Pact ASW forces would be unable to prevent NATO submarine attacks against Pact amphibious forces. DIA and Air Force believe that there has been insufficient analysis of the factors and assumptions which would support such a conclusion. Navy believes that the achievement of air superiority is but one of a number of factors which, taken together, will determine the outcome of the Pact's Baltic campaign. (IV, 109-111)

p. **Augmentation of Soviet Naval Forces in the Mediterranean by Black Sea Surface Combatants During a Period of Tension Prior to Hostilities.** CIA and State estimate that the Soviets would deploy few, if any, combatants to augment their Mediterranean Squadron because the ships are needed more in the Black Sea for fleet air defense and ASW in support of Pact operations against the Turkish Straits. DIA, NSA, and Navy conclude that the Soviets would augment with at least a



few, and possibly up to 12, modern Black Sea surface units because they would be of greater value in the Mediterranean than in the Black Sea. (IV, 142-144)

q. Number of Submarines Soviets Would Employ in the North Atlantic SLOC Interdiction Role. CIA, NSA, and State judge that about 10 submarines would be dispersed in North Atlantic shipping lanes for reconnaissance and attacks against shipping and naval targets of opportunity. Some of these submarines might alternatively have missions of minelaying near NATO naval bases or patrolling off major NATO naval bases to report on NATO movements and attack major warships. DIA and Navy believe that, in a typical initial wartime deployment, some 20 submarines would be positioned astride NATO's sea lines of communication to attack warships and ships carrying critical materiel to Europe in the initial phase of a war. The number of Soviet submarines dedicated to this effort would be scenario dependent. (IV, 168-169)

r. Potential Effectiveness of Soviet Naval Operations in the North Atlantic. Paragraphs 191-197 of chapter IV consider that the evident technical limitations of the weapons and sensors on Soviet ships, submarines, and aircraft could impact significantly on Soviet efforts to control the Norwegian and Barents Seas, although the mutually supportive aspects of some operations may offset certain technical weaknesses. DIA and Navy believe that these paragraphs should convey a more balanced appraisal of potential effectiveness and that, as now phrased, they tend to overstress the weaknesses of Soviet platforms; they tend to give inadequate consideration of strengths, including the operation of these platforms as a mutually supportive force; and they tend to assess effectiveness in tactical contexts which are unrealistic. (IV, 191-200)

s. Likelihood of Soviet Use of Nuclear Weapons at Sea Before Their Use on Land. Navy judges that, under certain circumstances, nuclear operations at sea would not await employment of nuclear weapons on land. All other agencies estimate that the USSR would be unlikely to initiate the use of nuclear weapons at sea while a war was being fought with only conventional weapons against NATO in Europe. (V, 10-11)

t. Speed of New Soviet Nuclear-Powered Attack (SSN) and Nuclear-Powered Guided Missile (SSGN) Submarines. DIA and Navy estimate that the maximum speeds for some of the new SSN and SSGN classes could reach 37 knots. CIA estimates that these submarines will be capable of speeds up to 33 knots. (VI, 63)

u. Effectiveness of the Soviet Aircraft Carrier Kiev and Its Impact Upon the Evolution of Soviet Naval Missions. CIA and State believe that a few ships of this class do not represent a significant improvement in Soviet capabilities to fight a war with NATO. They, and NSA, believe that, although it may constitute a major turning point in the development of the Soviet Navy, it is premature to judge the impact of the acquisition of carriers upon the evolution of naval missions. DIA and Navy hold that the introduction of the Kiev constitutes a major watershed in the development of the Soviet Navy, has influenced the acquisition of other future ships, and has already exerted a significant influence on naval operations. (VI, 69-70)

v. Propulsion of Large Combatant Being Fitted Out in Leningrad. CIA believes that the evidence is too ambiguous to classify the ship as to propulsion. DIA and Navy hold that this ship probably is nuclear powered. (VI, 71)



PART A

WARSAW PACT POLICY AND DOCTRINE FOR THEATER WARFARE

General Considerations

1. It is Soviet policy to acquire and maintain forces capable of successfully fighting either a conventional or nuclear war in Europe and to keep a clear numerical advantage over NATO in important military assets.<sup>1</sup> Soviet leaders stress the need for large, combat-ready forces to be in place at the outset of hostilities. They intend any future European conflict to take place on Western, not Eastern, territory.

2. The Soviet Union views control of its East European allies as vital to its national interests. The East European members of the Pact provide sizable forces and a territorial buffer between NATO and the Soviet Union. The presence or proximity of large, well-equipped Soviet forces gives the Soviets considerable leverage in exerting control over these countries, thus safeguarding the integrity of the Pact. The Soviets also value their military strength as a means of influencing European domestic and foreign policy decisions and deterring political or military developments which might alter the balance of power to their disadvantage. They do not, however, measure the military balance in Europe in isolation from the larger, global balance and, accordingly, are inclined to be very cautious in the use of military force in Europe.

3. Soviet expenditures for general purpose ground, air, and naval forces, as well as for those strategic attack forces directed primarily at Eurasian targets, are an important indicator of the USSR's emphasis on developing and maintaining its theater force capabilities. The Central Intelligence Agency estimates that, of total Soviet defense spending during the period 1967-77, almost 40 percent was devoted to procurement and operation of theater forces. (See figure 2.) Roughly three-fourths of these outlays can be directly attributed to those theater forces arrayed opposite

NATO. During this period, procurement of weapons, equipment, and spare parts accounted for more than three quarters of the USSR's outlays for theater forces.

Military Policy

4. A strong, in-depth defense of the homeland is basic to Soviet military doctrine. Moscow's war-fighting strategy also dictates that Warsaw Pact forces protect the Soviet homeland and lines of communication so that an offensive or counteroffensive could be successfully carried out. We find no evidence of an intent on the part of the Soviets merely to defend territory. On the contrary, the hallmark of Soviet military doctrine is offensive action. It provides the motive force behind the Soviet emphasis on high combat readiness, the desire to seize the initiative, and the requirement for substantial numerical superiority in the main battle areas, backed by strong reserves, to ensure the momentum of the attack. Pact theater force developments over the past decade reflect a systematic effort to meet these doctrinal requirements for conducting conventional and nuclear offensives in the European theater.

5. Soviet leaders conclude that the initial stages of a NATO-Warsaw Pact conflict probably would be fought with conventional weapons. We believe that they would prefer that such a conflict remain nonnuclear in order to avoid the catastrophic consequences of nuclear war and to take advantage of their superiority in conventional ground forces in Central Europe. Nevertheless, they see a high probability that war would involve the use of nuclear weapons initiated either by NATO to avoid defeat in Europe or by the USSR if the war were going badly for the Pact. We believe that Soviet doctrine emphasizes counterforce rather than countervalue strikes.

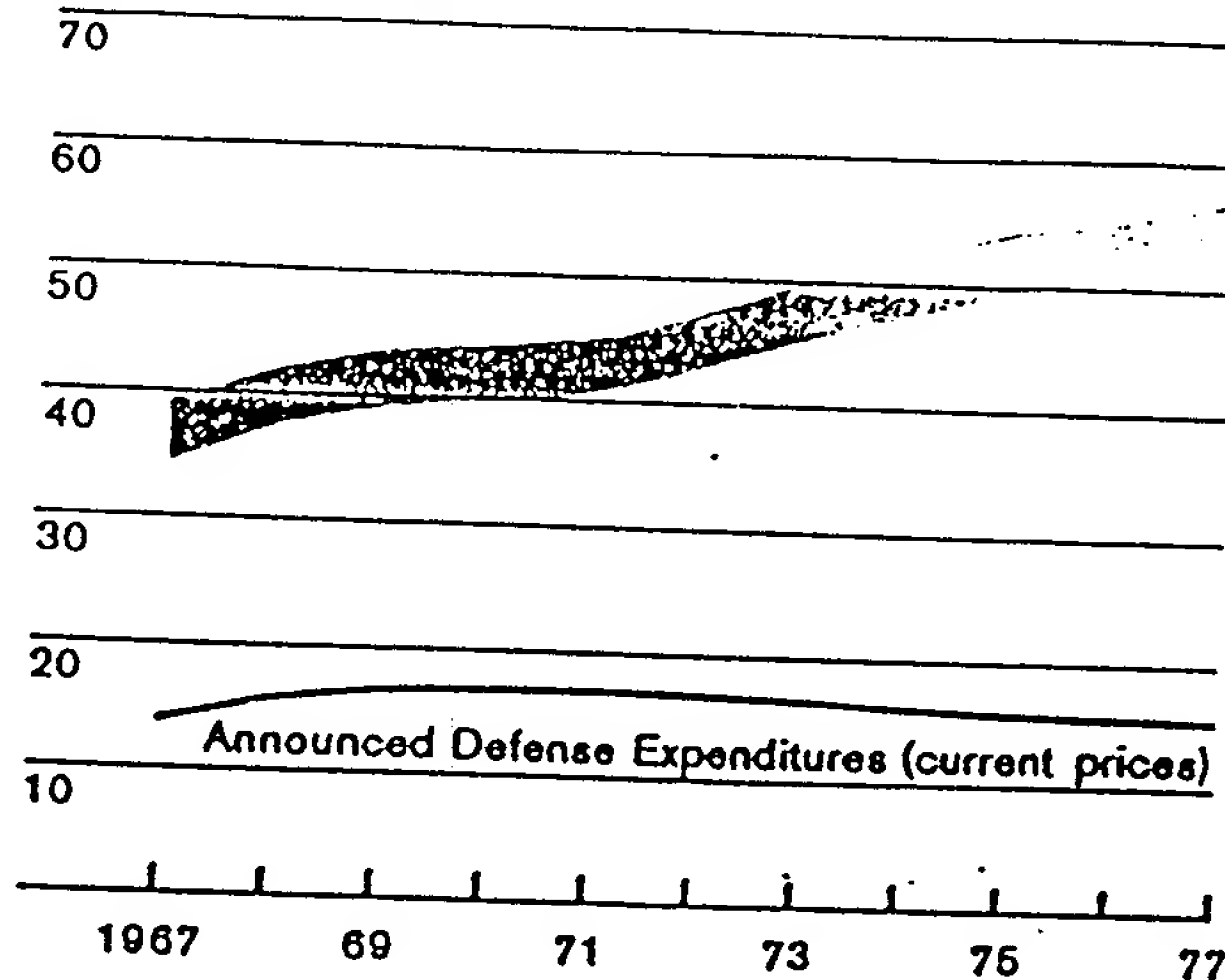
6. In the 1960s it was Soviet policy to retaliate against any NATO nuclear initiative with a theaterwide strike. By 1970, however, the Soviets had

<sup>1</sup> For an expanded discussion of Soviet military policy in Europe, see NIE 11-4-78, *Soviet Goals and Expectations in the Global Power Arena*.

# Estimated Soviet Expenditures for Defense, 1967-77

Figure 2

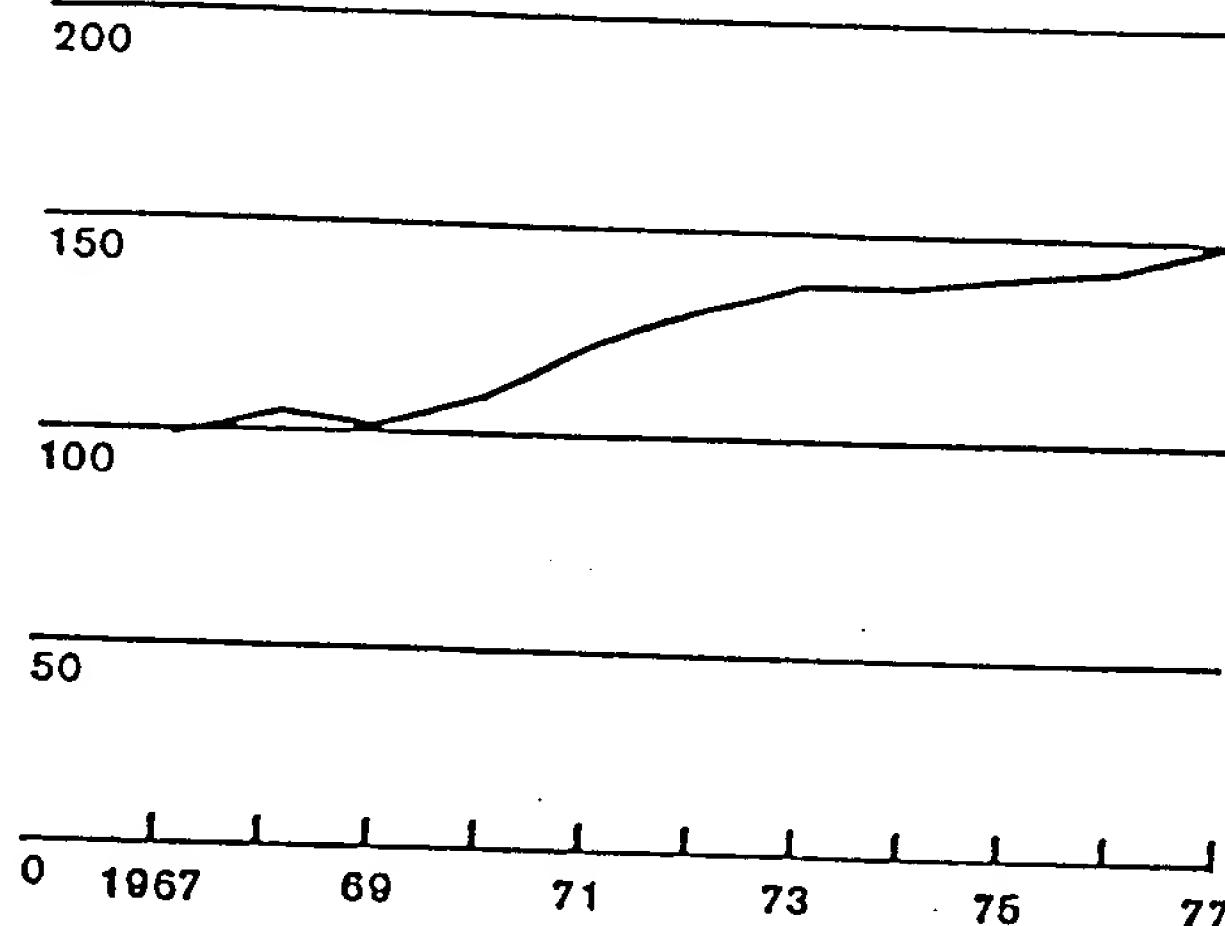
## A. Estimated Total Expenditures Billion 1970 Rubles



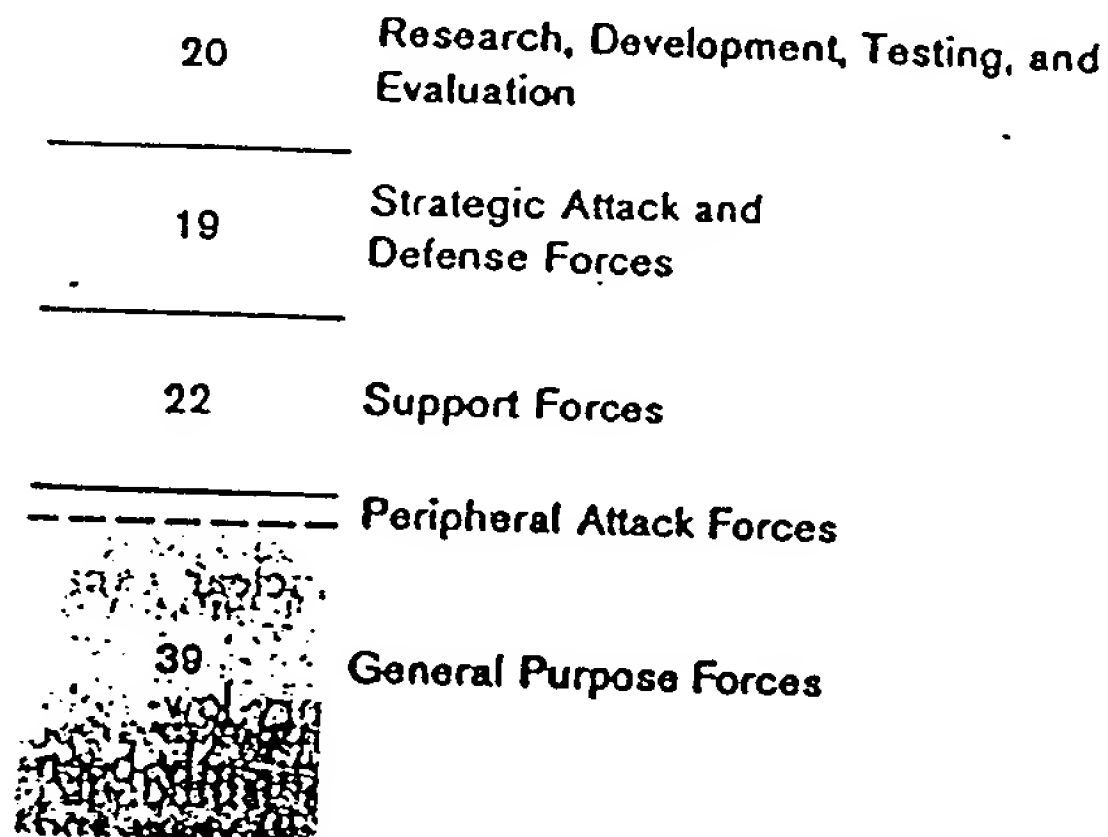
Estimate defined as the Soviets might view their defense effort

Estimate defined for comparison with US accounts.

## B. Index of Growth of Estimated Total Expenditures for Procurement and Operation of Peripheral Attack and General Purpose Forces Calculated in 1970 Rubles 1967=100



## C. Percentage Distribution of Estimated Total Expenditures, 1967-77 Calculated in 1970 Rubles



Expenditures shown in charts B and C represent spending on investment for and operation of general purpose, peripheral attack, strategic, and support forces. These expenditures are derived from our latest estimate of order-of-battle data on deployed forces and the costs associated with these forces. The expenditures shown here differ from the breakdown given in NIE 11-3/8-78, which includes expenditures for peripheral attack forces within expenditures for strategic forces. Not included in expenditures for general purpose and peripheral attack forces shown in charts B and C are:

- Outlays for military research, development, testing, and evaluation relating to general purpose or peripheral attack force weapon systems.
- Costs of nuclear weapons allocated to general purpose and peripheral attack forces. Because most of the nuclear weapons are utilized by the strategic forces, all nuclear weapons costs have been included with those forces. Nuclear weapons total about 2 percent of estimated Soviet expenditures.
- Costs of support forces associated with general purpose and peripheral attack forces.

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adopted a policy of more flexible use of nuclear weapons against NATO. Alternative responses that have at least been examined include:

- Delayed responses to NATO's first, small-scale use of nuclear weapons.
- Responses at the lower end of the nuclear spectrum with small-scale strikes by forward-based systems rather than with theaterwide strikes involving USSR-based systems.
- Escalation of the intensity of nuclear strikes over time.

7. Despite the Soviets' having adopted a policy for the more flexible use of tactical nuclear weapons, and notwithstanding the impressive improvements they have made in forward-based tactical nuclear capabilities, they have not sought to match NATO's capacity for accurate and selective use of very-low-yield nuclear weapons. Although they have evidently been working on nuclear artillery for at least 20 years and have nuclear-capable artillery units in the western USSR, they do not appear to have given high priority to fielding it in Central Europe. Also, their armory of tactical nuclear warheads has shown a strong trend toward higher rather than lower yields.

Although the Soviets now have the necessary forces and employment doctrines to conduct limited nuclear war in Central Europe, we believe that they remain skeptical of the possibility of controlling escalation.

8. In sum, we cannot predict how the Soviets might respond to a limited and selective NATO first use of nuclear weapons or to their perception of NATO's preparations for the imminent use of nuclear weapons. They might conceivably continue purely nonnuclear operations, or they might respond with small-scale nuclear strikes of their own. They might also launch a theaterwide nuclear strike.

9. Neither can we be certain of the circumstances under which the Soviets might themselves initiate nuclear operations in a NATO-Warsaw Pact war.

10. Preemption continues to be a feature of Soviet theater nuclear doctrine.

11. We have considered whether the Soviets have adopted a strategy of "decoupling" nuclear war in Central Europe from the employment of peripheral systems. We have found no direct evidence of such a strategy in recent Soviet military writings or information from other human sources. However, the substantial increases in the number and quality of Pact tactical nuclear systems in Central Europe have provided the Pact with a capacity to conduct nuclear war there at relatively high intensities without having to resort to USSR-based systems.

Nonetheless, the Soviets' continued modernization of USSR-based peripheral strike systems

argues that they still expect to have to resort to the use of these weapons at some stage of theater nuclear war. Their uncertainty about their actual ability to deter the West from launching strategic nuclear strikes against Soviet territory in the face of a successful Soviet conventional assault—which is complicated by the existence of independent French and British nuclear systems targeted against the USSR—further argues against the likelihood that the Soviets would anticipate much success in achieving a decoupling strategy.

12. In both classified and open-source writings, Soviet military theorists still warn that escalation to the intercontinental level would be likely and could occur at any point during a theater conflict, conventional or

nuclear, although restriction to the theater level is not ruled out. The Soviets probably see an advantage in limiting the use of nuclear weapons to the theater level, but they continue to plan and prepare against the likelihood that theater nuclear war would involve strikes on the USSR and escalate to intercontinental conflict.<sup>2</sup>

### Chemical Warfare

13. The Soviets are clearly planning for the contingency that toxic chemical agents might be used in a war between NATO and the Warsaw Pact. They have a continuing, vigorous program to equip and train Pact forces for operations in a chemical, biological, or radiological (CBR) environment. In addition, they have produced a variety of modern nerve agents and have the delivery systems and tactics necessary for the large-scale offensive use of these agents, but we do not know the size or the composition of the Soviet stockpile of chemical agents and filled munitions.

14. The Soviets categorize chemical weapons—as they do nuclear and biological weapons—as “weapons of mass destruction” whose initial use must be authorized at the highest political level. All of the Pact’s operational stocks of chemical weapons and agents are believed to be under Soviet control in peacetime. Some are stored in Central Europe. The control and release procedures for chemical weapons are not necessarily the same as for nuclear weapons, and there is some evidence that, once released, chemical weapons would be subject to fewer restrictions on subsequent use than nuclear weapons. In addition, peacetime security over chemical weapons appears less rigorous than for nuclear weapons and is believed to be as much to prevent hazardous exposure as to prevent unauthorized use.

15. In the extensive body of available Pact writings dealing with the likely nature of a future war in Europe and addressing the broad strategic and operational considerations for conducting conventional, nuclear, and chemical warfare, there is no discussion of Pact intentions or plans to initiate chemical warfare during a nonnuclear conflict. In other writings which deal with tactical and technical problems of combat

<sup>2</sup> The potential effect of improvements in USSR-based strategic systems for peripheral attack, in concert with improvements in Soviet intercontinental strike systems, on the possibility of decoupling theater nuclear war from intercontinental conflict is treated in NIE 11-3/8-78, *Soviet Capabilities for Strategic Nuclear Conflict Through the Late 1980s*.

without explicit reference to the overall situation, Pact writers do treat the use of chemical weapons extensively. Pact field training for offensive and defense chemical operations continues [

]

16. Whatever the circumstances of initial use, once offensive chemical warfare had been authorized, the Pact’s employment doctrine would lead it to attempt to achieve surprise and to employ chemical weapons on a large scale in the hope of catching NATO troops unprotected. Prime objectives, for example, would be to disable airfields, nuclear and logistic depots, and command and control facilities. Other important objectives might include reduction of NATO’s antiarmor capabilities and air defenses or stopping amphibious landings.

17. Once widespread nuclear warfare had begun, the question of whether to use chemical weapons would be largely tactical. Pact writings on theater nuclear war usually assume that chemical weapons would be used also. In such circumstances, chemical weapons are thought to be a valuable complement to conventional and nuclear weapons because their effects can be more widespread than conventional weapons and they present fewer troop safety problems and produce fewer obstacles to friendly troop maneuver than do nuclear weapons.

18. With respect to the question of Soviet policy on the first use of chemical weapons, there are two views within the Intelligence Community. Some believe<sup>3</sup> that it is unlikely that the Warsaw Pact would initiate offensive chemical warfare before the advent of nuclear war, but that the Pact’s first use under these circumstances cannot be entirely excluded. Others believe<sup>4</sup> that there is a strong possibility that the Soviets would initiate chemical warfare in a conventional conflict. (For the rationale underlying these positions, see chapter I, volume II.)

<sup>3</sup> The holders of this view are the Central Intelligence Agency and the Director, Bureau of Intelligence and Research, Department of State.

<sup>4</sup> The holders of this view are the Director, Defense Intelligence Agency; the Director, National Security Agency; and the Senior Intelligence Officers of each of the military services.

### Biological Warfare

19. All Warsaw Pact countries have signed the Biological Warfare Convention prohibiting the production, storage, and use of biological weapons. There is no evidence that any of them have violated the treaty. The Convention permits defensively oriented BW programs which the Soviets are known to have. [ ] available evidence do not treat offensive use of biological weapons. We assume, however, that the Soviets are continuing research on biological agents, and that they have facilities which could be used to produce biological weapons if a decision were made to do so.

### Electronic Warfare

20. The Soviets have a broad-based policy concerning electronic warfare—"radioelectronic combat" in

the Soviet lexicon—and have made it a fundamental part of their battle planning at the tactical and strategic level. The Soviet concept of radioelectronic combat is considerably broader than the US concept of electronic warfare. It encompasses jamming, camouflage, concealment and deception, and operations to destroy NATO's intelligence and electronic control systems, especially those for nuclear forces, while protecting the USSR's own systems and forces. Soviet radioelectronic combat also includes reconnaissance and signal intelligence efforts to identify and locate NATO's electronic control systems and to determine their vulnerabilities. In the Soviet view, radioelectronic combat is to be integrated into all phases of warfare, and we expect that NATO's intelligence and electronic control systems at all levels would be subject to concerted electronic and physical attack.



## PART B

### TRENDS IN WARSAW PACT THEATER FORCES

21. Warsaw Pact forces are predominantly Soviet, but non-Soviet Warsaw Pact (NSWP) forces make a significant contribution and indeed are critical to Soviet strategy for conflict in Europe. Pact forces opposite NATO can best be described in terms of major groupings:

- Ground, tactical air, and air defense forces in Eastern Europe and in the military districts of the USSR opposite NATO, and possibly these types of forces in the Moscow, Volga, Ural, and Turkestan Military Districts.
- Naval forces of the three Soviet European fleets and the NSWP countries.
- Most medium- and intermediate-range and some intercontinental ballistic missiles of the Soviet Strategic Rocket Forces.
- Most intermediate-range and some long-range bombers of Soviet Long Range Aviation.

This part of volume I summarizes the current status and trends of Warsaw Pact ground, air, naval, and theater nuclear forces opposite NATO. Volume II of the Estimate contains additional details of current Pact equipment acquisition programs for these forces, weapons characteristics, logistic capabilities, and forces for chemical and electronic warfare.

#### Ground Forces

22. Warsaw Pact ground forces opposite NATO number about 1.9 million men. The Soviet Union accounts for roughly half of the total or just over 1 million men. About half of these Soviet forces are stationed in Eastern Europe and half in the military districts of the USSR that are opposite NATO. (See table 1.)

23. Although the number of Pact divisions opposite NATO has remained stable since the late 1960s, the units have received additional men, weapons, and support equipment. Forces in Central Europe—where

Table 1

#### Warsaw Pact Ground and Air Forces Opposite NATO\* January 1979

	Soviet	NSWP	Total
Ground Forces:			
Manpower	1,105,000	813,000	1,918,000
Tank and motorized rifle divisions	103	51	154
Medium tanks	30,500	14,500	45,000
Armored personnel carriers	20,500	11,000	31,500
Artillery pieces	13,000	5,200	18,200
Air Forces:			
Tactical aircraft	3,020	1,175	4,195
Combat and support helicopters	1,910	705	2,615
NSWP air defense interceptors	—	1,210	1,210
NSWP surface-to-air missile (SAM) sites	—	160	160
Soviet medium and heavy transport aircraft (VTA)	665	—	665

\*Includes Soviet and East European forces in the non-Soviet Warsaw Pact (NSWP) countries (East Germany, Poland, Czechoslovakia, Hungary, Romania, and Bulgaria) and Soviet forces in the Baltic, Belorussian, Carpathian, Leningrad, Odessa, Kiev, North Caucasus, and Transcaucasus Military Districts of the USSR. Detailed order-of-battle information for Pact ground and air forces is contained in tables B-1, B-2, and B-3 in annex B of volume II.

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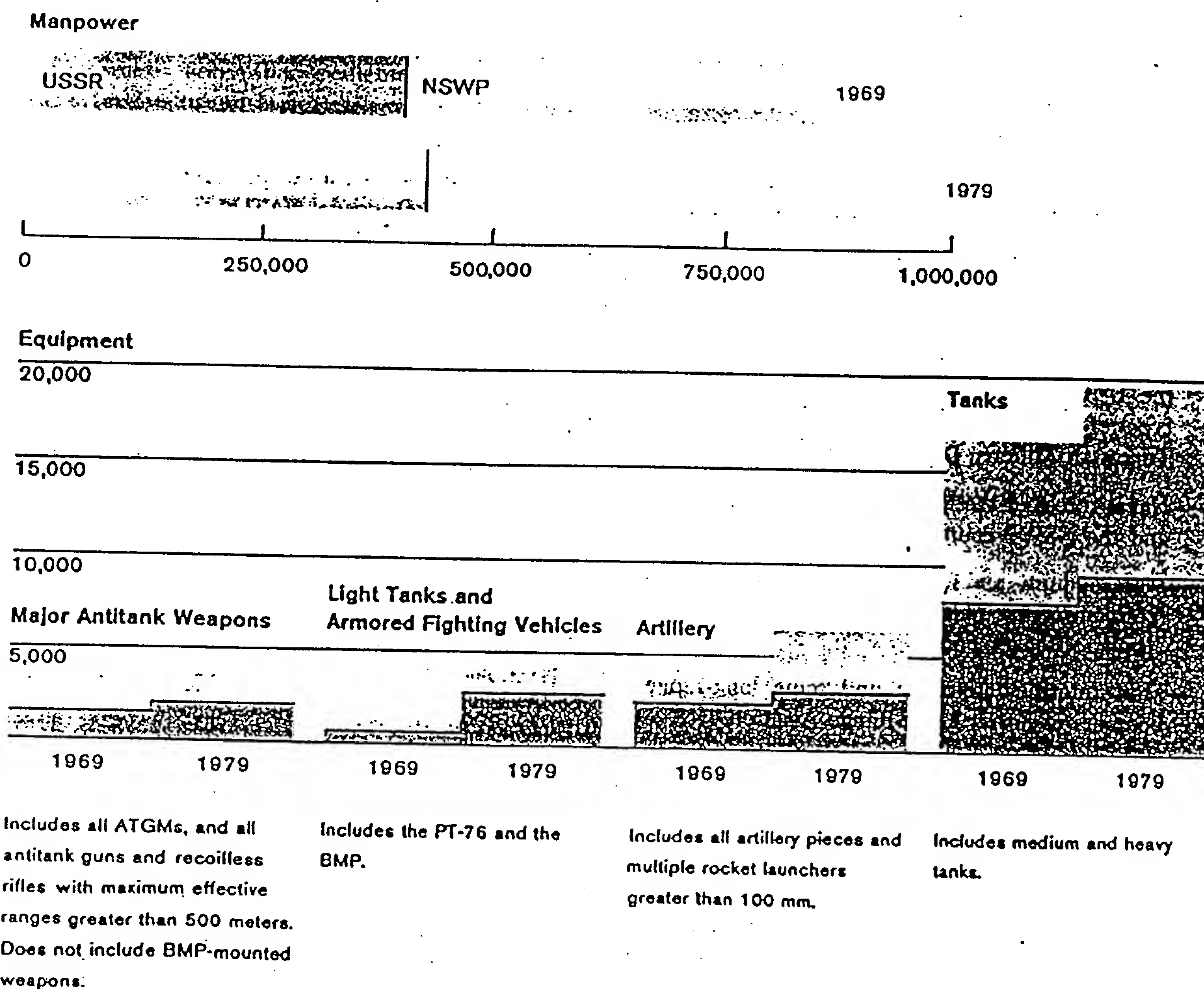
our information is best—have increased more than forces opposite NATO's flanks. For example, Pact ground forces manpower in the area has increased by some 140,000 men since 1969. Figures 3 and 4 depict several of the more important trends in Pact ground forces in Central Europe (East Germany, Poland, and Czechoslovakia).

24. Tank and motorized rifle divisions are the basic tactical units of Pact ground forces.<sup>6</sup> The Pact maintains a grand total of 217 active tank and motorized

<sup>6</sup> Pact airborne divisions are discussed in paragraph 28.

# Trends in Warsaw Pact Ground Forces in Central Europe, 1969 and 1979

Figure 3



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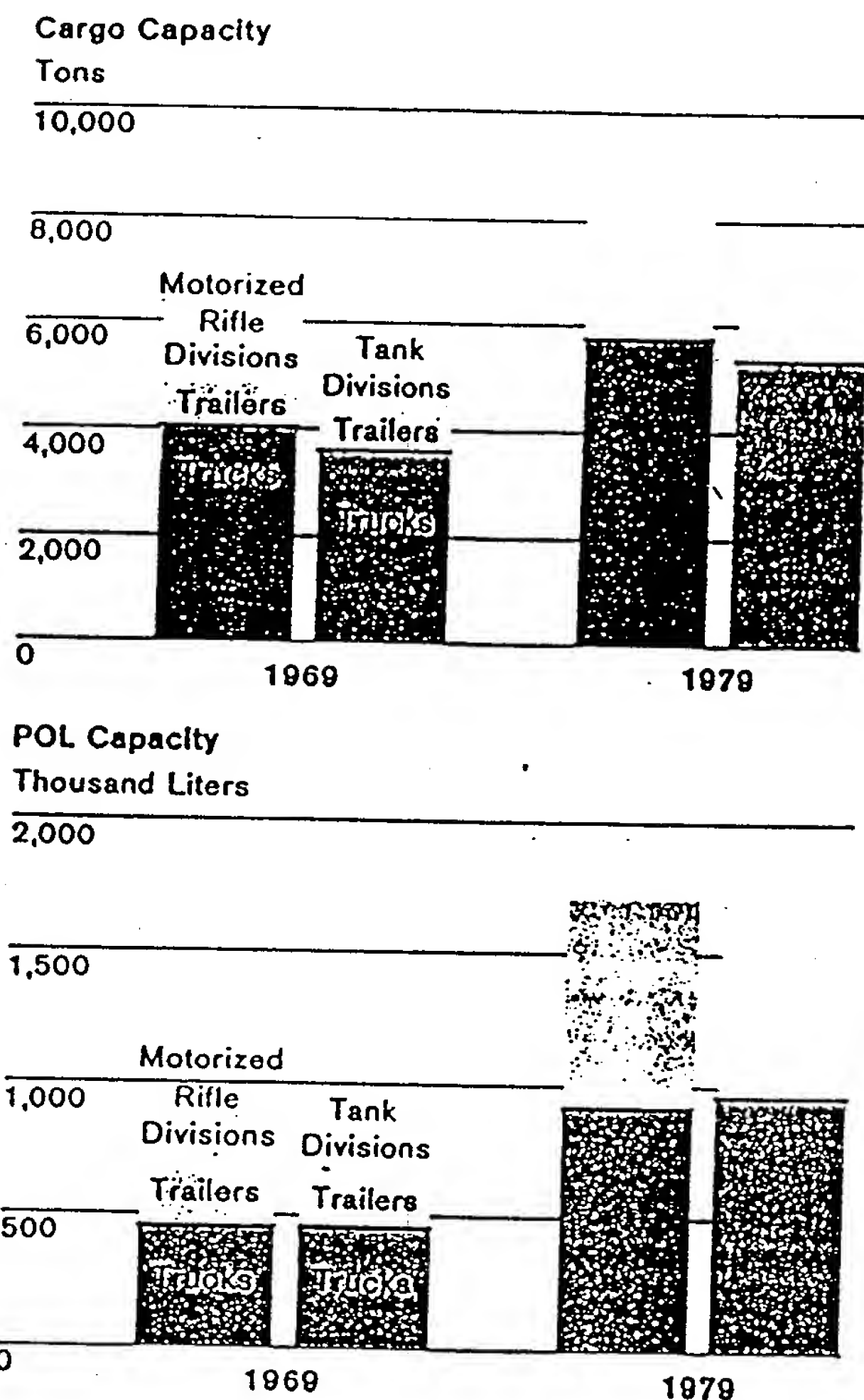
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rifle divisions (166 Soviet and 51 East European) at varying strengths in its peacetime ground forces. The number of such divisions opposite NATO stands at 154. (See figure 5.) Besides those forces earmarked for use against NATO the Soviets have an additional 16 tank and motorized rifle divisions in the Moscow, Volga, Ural, and Turkestan Military Districts which could be used against NATO or elsewhere.

25. In peacetime, Pact divisions are maintained in various states of readiness suitable for the conduct of limited combat operations on short notice and for generating large forces through rapid mobilization. We classify Pact ground force divisions according to our estimate of their peacetime manning and equipment levels. All divisions in the Soviet Groups of Forces in Eastern Europe and eight NSWP divisions

Cargo and POL Lift Capacities  
of Soviet Divisions,  
1969 and 1979

Figure 4



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are manned close to wartime strength, have a full complement of combat equipment, and can be brought up to strength and ready to move within 24 hours. Other active Soviet and NSWP divisions have lower manpower and equipment levels, and can be mobilized and begin movement for combat within 72 hours.

26. All Pact countries have well-organized mobilization systems that can rapidly fill understrength

ground units with personnel and equipment from the civilian economy. These systems have not been tested on a broad scale, although local tests occur often. The base of trained personnel and equipment in the Pact countries is adequate to support Pact mobilization plans. Organizations and elements at army and front level, particularly rear service units, require longer to mobilize than the combat units which they support. In addition, significant portions of the Soviet and other Pact rear services required for wartime operations do not exist in peacetime. Major elements, such as some medical and transport units, would have to be mobilized from the civilian economy.<sup>6</sup>

27. Pact armed forces depend heavily on universal conscription to meet military manpower requirements. In the USSR, conscripts make up roughly 75 percent of total active strength. Terms of service vary by nation and branch of service but generally are two to three years. The Soviets induct their conscripts semiannually, usually for a two-year term of service. The Soviets have upgraded their ground force training in recent years as a result of two factors. The increasing amount of complex equipment entering the inventory usually requires a more highly trained soldier to operate or maintain it. Because the conscript's term of service is now two years, the Soviets are faced with the requirement to provide more training in less time for their largely conscript army. This has prompted the Soviets to modify their training system to include increased emphasis on preinduction training, individual specialist training, and intensified unit training.<sup>7</sup>

#### Airborne Forces

28. In addition to tank and motorized rifle divisions, the Pact also maintains large airborne forces. These forces, which have remained relatively constant in numbers over the past decade, include eight Soviet divisions (one is a training division), one Polish division, and smaller units in each of the other non-Soviet countries. Soviet airborne divisions are centrally controlled by Airborne Troops Headquarters in Moscow and are considered strategic reserves of the Supreme High Command (VCK). Soviet airborne divisions could be used in a variety of wartime situations

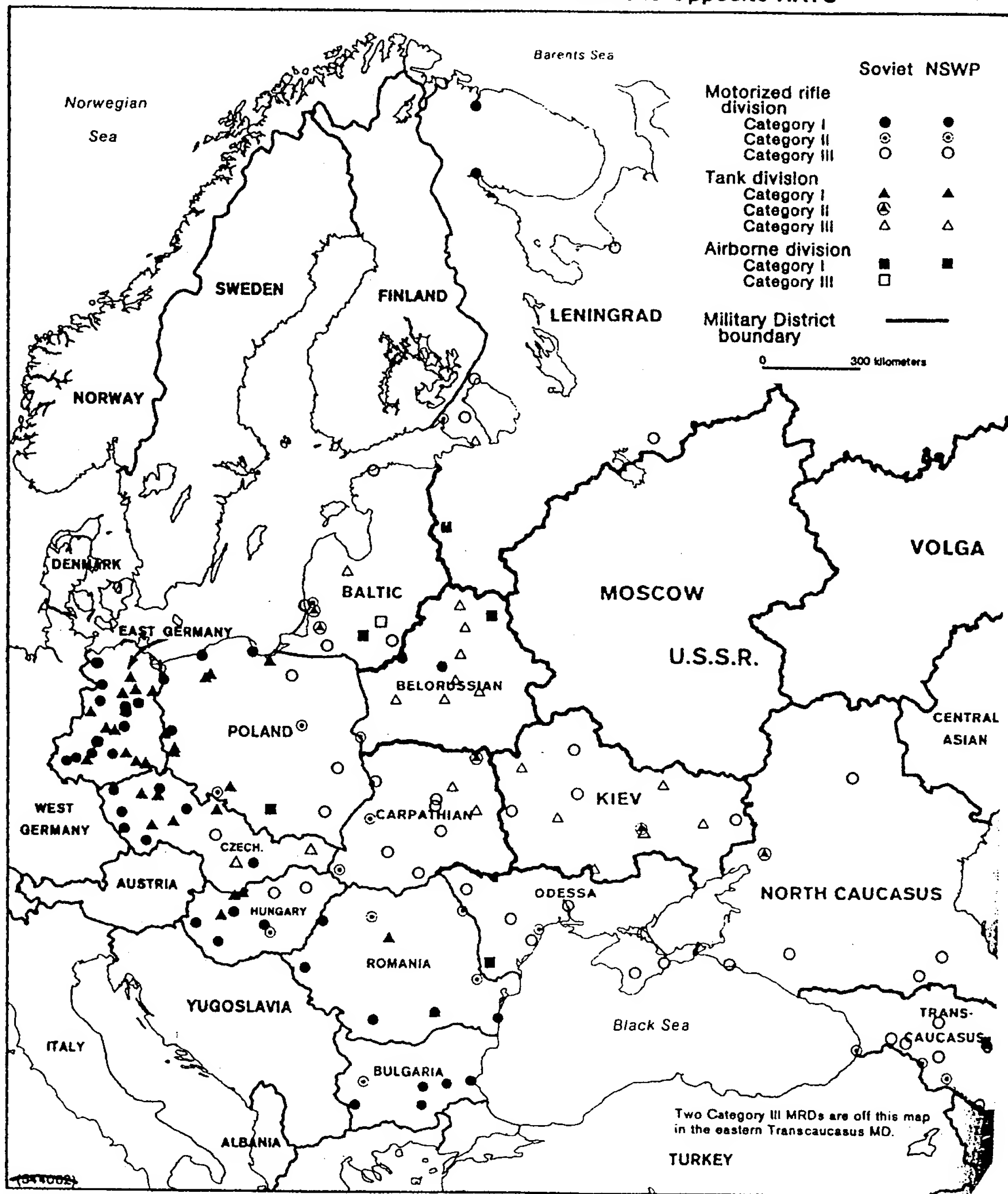
<sup>6</sup> Volume II presents differing agency views concerning Pact motor transport capabilities.

<sup>7</sup> Volume II discusses training, morale, and discipline in the Pact ground forces in greater detail, as well as agency differences concerning the success of Soviet career noncommissioned personnel programs.



Peacetime Location of Warsaw Pact Ground Force Divisions Opposite NATO

Figure 5



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ranging from operations under the direct control of the V GK to tactical-level missions. The Soviet divisions also have important potential uses other than war in Europe, such as intervention in Third World areas.\*

#### Equipment

29. Pact ground forces are well equipped with weapons either of Soviet origin or patterned after Soviet models. The equipment inventory is being continually modernized with the introduction of new, improved combat vehicles, support equipment, and weapons designed to increase mobility and provide greater, more accurate firepower. Despite impressive modernization programs, however, Pact ground forces retain a mixture of old and new equipment. Although Pact forces are considerably more standardized than NATO's, items such as T-34 and T-54/55 tanks, the BTR-152 and earlier models of BTR-60 armored personnel carriers, and various older models of field artillery and antiaircraft guns, are still operational and contribute to diversity within the Pact weapons inventory. Although most Pact equipment is of Soviet production and design, the share produced by the NSWP countries is increasing.

30. *Tanks.* Armor continues to dominate Pact ground forces. In all, Pact forces opposite NATO have about 45,000 medium tanks at their disposal.\* While the Soviets are aware of the improved technology and growing numbers of NATO antitank weapons and have demonstrated this awareness in modifying their forces and tactics, such adjustments have not led to any diminution of the tank forces or any major change in the way they see these forces performing. In recent years two new tanks, the T-64 and the T-72, have been introduced into the ground forces. Both tanks incorporate better armor protection, a 125-mm smoothbore gun, an automatic loading system, and an electro-optic, possibly laser, rangefinder. The T-72, or an improved version, will probably be the main production tank well into the 1980s. The T-55 remains the main battle tank of the NSWP forces.

31. *Artillery.* Pact artillery is still predominately towed, but is being improved by the addition of four new self-propelled models and a new multiple rocket launcher. The Soviets are replacing the towed 122-mm

\* See NIE 11-10-79 for details of Soviet capabilities for projecting military power and influence in distant areas.

\* Differing agency views regarding the number of Soviet motorized rifle divisions which have an independent tank battalion are contained in chapter II of volume II.

howitzers with self-propelled models in their motorized rifle regiments, while the new 152-mm self-propelled howitzer has replaced towed pieces in the artillery regiments of several motorized rifle and tank divisions. A new 203-mm self-propelled gun and a new 240-mm self-propelled mortar, both nuclear capable, are being deployed in the USSR. We estimate that they will be deployed eventually with Soviet forces in Eastern Europe. In addition to equipment modernization, Soviet artillery units in both tank and motorized rifle divisions are being expanded. Modernization and some expansion are under way in NSWP artillery units, but at a much slower pace.

32. *Armored Personnel Carriers and Other Combat Vehicles.* Soviet divisions in Eastern Europe have their full complement of armored personnel carriers. Significant shortages remain in Soviet divisions in the USSR, however, with some lacking as much as two-thirds of their APC complement. One-half to two-thirds of the 20,500 Soviet APCs opposite NATO are now modern amphibious models. The rest are older models with relatively poor cross-country mobility. The Soviets continue to replace these APCs with improved models—the BTR-60PB and the BMP. The BTR-60PB is an amphibious, wheeled APC which provides good mobility and armor protection from small arms and shell fragments. The BMP is an amphibious, tracked vehicle designed to operate closely with tanks and has greater armor protection than the BTR-60PB. It is equipped with a machine-gun, a 73-mm gun, and the Sagger antitank guided missile launcher. It also has a CBR protective system to allow operations in a toxic or radioactive environment. The NSWP ground forces, on the whole, are still predominantly equipped with older APCs.

33. *Ground Force Air Defense Systems.* Pact ground forces opposite NATO are equipped with a variety of tactical surface-to-air missile (SAM) and antiaircraft (AA) gun systems. A program to replace gun systems and older SAMs with more mobile SAM systems was begun in the late 1960s and continues, with Soviet units in Eastern Europe and along the Sino-Soviet border receiving highest priority. Upgrading of the remaining Soviet units and of the NSWP forces is proceeding more slowly.

34. *Antitank Weapons.* The Soviet arsenal of antitank weapons includes both guided missiles and artillery. Antitank guided missiles (ATGMs) are heliborne, vehicle mounted, and man portable. Improved models of the radio-controlled AT-2 Swatter and wire-guided

AT-3 Sagger with semiautomatic guidance are mounted on modified scout cars and helicopters. The Sagger can also be mounted on the BMP and BMD and is available in a manpack version. Some first-generation Swatters and Sagers are still in service. Three new ATGM systems are also being deployed with Soviet forces. The AT-4 Spigot man-portable ATGM, the AT-5 Spandrel vehicle-mounted system, and the AT-6 Spiral heliborne system have all been observed recently with Soviet forces in East Germany. Antitank (AT) guns and recoilless guns have not received the priority in development and deployment that the ATGM has in recent years. NSWP forces have a wide variety of antitank weapons, including recoilless guns, AT guns from 57-mm to 100-mm, and ATGMs. Except for a few Czechoslovak-produced weapons, all are of Soviet origin. NSWP forces are gradually improving their antiarmor capabilities by acquiring more ATGM launcher vehicles and manpack ATGM sets.

35. *Surface-to-Surface Missiles and Rockets.*<sup>10</sup> The Pact arsenal of rockets and surface-to-surface missiles includes free rockets over ground (FROGs) and short-range ballistic missiles. All Pact ground forces are equipped with FROGs and SS-1 Scuds, which are capable of delivering conventional, as well as chemical and nuclear warheads. The poor accuracy of these systems would make them relatively ineffective in a conventional role against point targets. Soviets also have the SS-12 Scaleboard and its follow-on, the SS-22. A new missile, the SS-21, is being deployed to Soviet units as a replacement for the FROG. The FROG, SS-21, and possibly the SS-22 also can carry a cluster-munition warhead.

#### Air Forces

36. The Soviet Air Forces are divided into three functional components: Long Range Aviation (LRA), Frontal (tactical) Aviation, and Military Transport Aviation (VTA).<sup>11</sup> The primary missions of LRA are intercontinental nuclear strikes and conventional or nuclear strikes in support of theater forces. Frontal Aviation missions include counterair, ground attack, reconnaissance, electronic warfare (EW), and helicop-

ter ground attack and troop lift. The primary mission of VTA is the transport of airborne assault forces.

37. All NSWP countries have air forces for national air defense. In addition, Poland, Czechoslovakia, and Bulgaria have tactical air forces. East Germany has one ground attack unit and Romania has two. None of the NSWP air forces have sufficient transport aircraft to support other than small-scale airlift operations. The current personnel strength of the Soviet air forces opposite NATO is estimated to be about 500,000 and that of the NSWP air forces stands at about 200,000. Figure 6 shows the current geographic disposition of Pact air forces opposite NATO.

#### Tactical Air Forces

38. There are about 4,600 fixed-wing combat aircraft in Soviet Frontal Aviation and another 1,175 in NSWP tactical air units. Although there was sizable growth in Soviet Frontal Aviation during the late 1960s, primarily because of the buildup against China, the size of Pact tactical air forces opposite NATO has been relatively stable since the early 1970s at approximately 4,200 fixed-wing combat aircraft.

39. The Pact began reequipping its air forces in 1969, with fighter units receiving initial priority. Late-model MIG-21 Fishbed and MIG-23 Flogger B aircraft were introduced to replace earlier model Fishbeds in these units. Modernization of the fighter-bomber forces began four to five years later, with SU-17 Fitter C/D, MIG-27 Flogger D, and some late-model Fishbed aircraft replacing the MIG-17 Fresco and SU-7 Fitter A. Light-bomber units also began reequipping in the mid-1970s by acquiring the SU-24 Fencer A as a replacement for the YAK-28 Brewer B/C. Modernization has progressed more rapidly in Soviet than in the NSWP air forces. Newer aircraft now account for about 80 percent of the Soviet force, 20 percent of the NSWP force, and two-thirds of total Pact tactical air strength opposite NATO. (See figure 7.)

40. One of the most significant developments in Warsaw Pact tactical air forces in recent years has been their modernization through the introduction of new aircraft. The new aircraft have greater ranges, can carry greater payloads, are equipped with better, more advanced avionics, and are armed with better, more effective munitions. These attributes combine to give the Pact's air forces the capacity to deliver more

<sup>10</sup> For a more detailed discussion of Pact tactical rockets and missiles, see paragraphs 83 and 84.

<sup>11</sup> Details of the role and capabilities of LRA and Soviet Naval Aviation in theater war are discussed in volume II (chapters II, IV, and V). Soviet strategic air defense forces are discussed in NIE 11-3/8-78.

Peacetime Location of Warsaw Pact Air Forces Opposite NATO

Figure 6



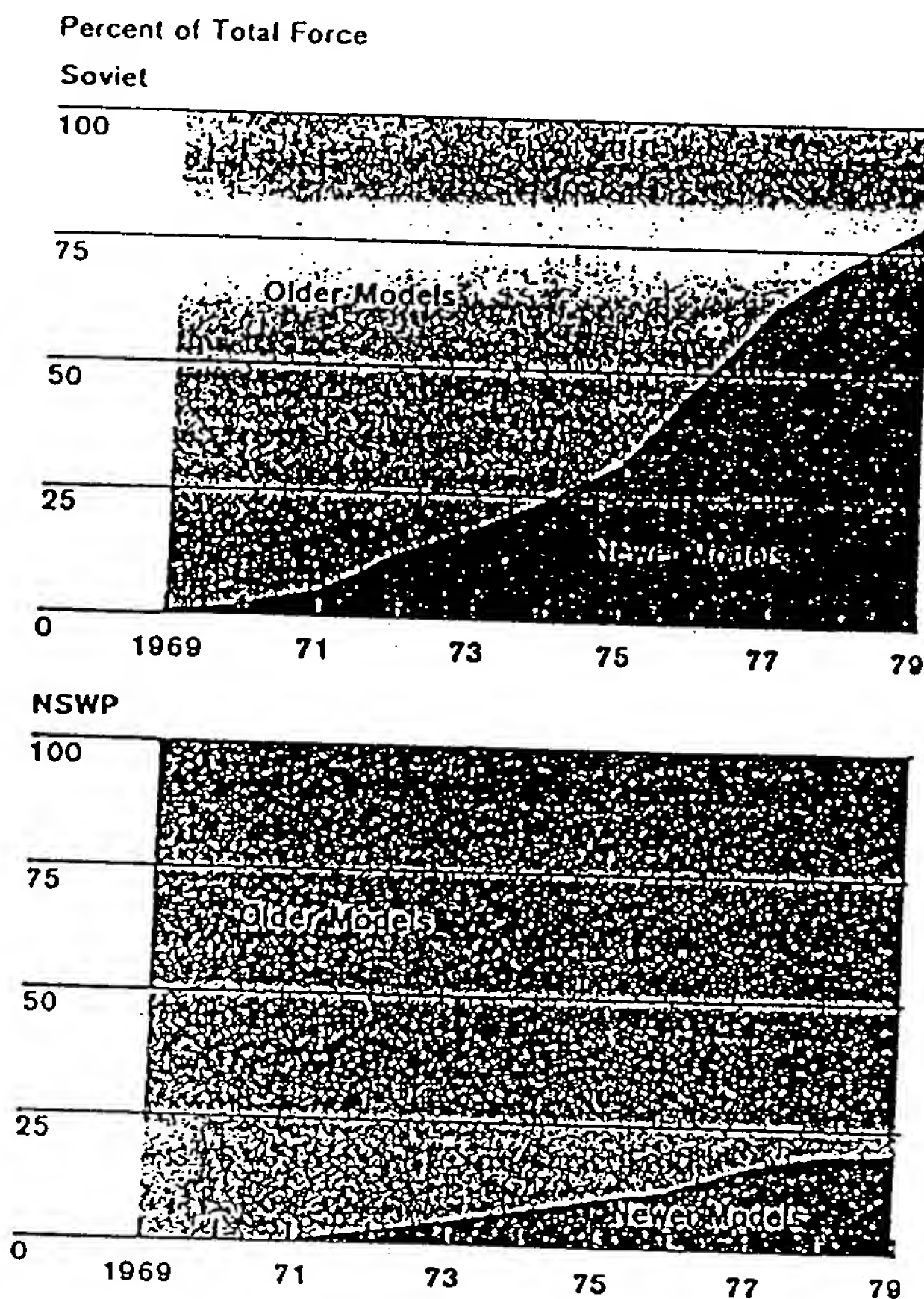
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Modernization Trends  
in Warsaw Pact Tactical Air Forces  
Opposite NATO, 1969-1979

Figure 7



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effective firepower under a greater variety of conditions.

41. In 1969 some 30 percent of the Pact's tactical fighters were unable to conduct aerial engagements under adverse weather conditions, all attacks had to be performed from the rear hemisphere, and the fighters had virtually no capability to intercept low-flying aircraft. (See figure 8.) Today, nearly 95 percent of Pact fighters are able to operate in adverse weather,

and 40 percent of the force is equipped with the Flogger B, which has an all-aspect intercept and limited lookdown/shootdown capability. In 1969, all Pact fighter-bombers relied on ground-based navigation aids or dead reckoning, which would have forced them to navigate over NATO territory at vulnerable medium altitudes. At that time Beagle and Brewer light bombers provided the Pact's only autonomous adverse weather bombing/navigation capability. Today there are about 45 percent fewer aircraft (Brewers and Fencers) possessing this capability, but the fewer numbers have been more than offset by an increase in the number of fighter-bomber units. Now also, some 30 percent of the aircraft in Pact fighter-bomber units can navigate accurately at lower altitudes in adverse weather using only onboard avionics, although they still have to acquire their targets visually for precise weapons delivery.

42. In 1969 the Pact, with its short-range, low-payload aircraft, had only a few tactical aircraft capable of conducting air-to-air or ground attack missions west of the Rhine. Today, large numbers of Pact tactical aircraft can operate well into France and the Benelux countries with larger payloads. Figure 9 depicts the payload and operating radius of selected Pact tactical aircraft.

43. Although recent improvements have significantly enhanced the capability of the Pact's tactical air forces to conduct long-range offensive operations, the basic role of these forces remains unchanged. The Pact's tactical air forces continue to have two primary missions—air defense and ground attack support of the Pact's ground armies. The continuing emphasis on air defense is indicated by the high priority in equipment modernization accorded fighter units.

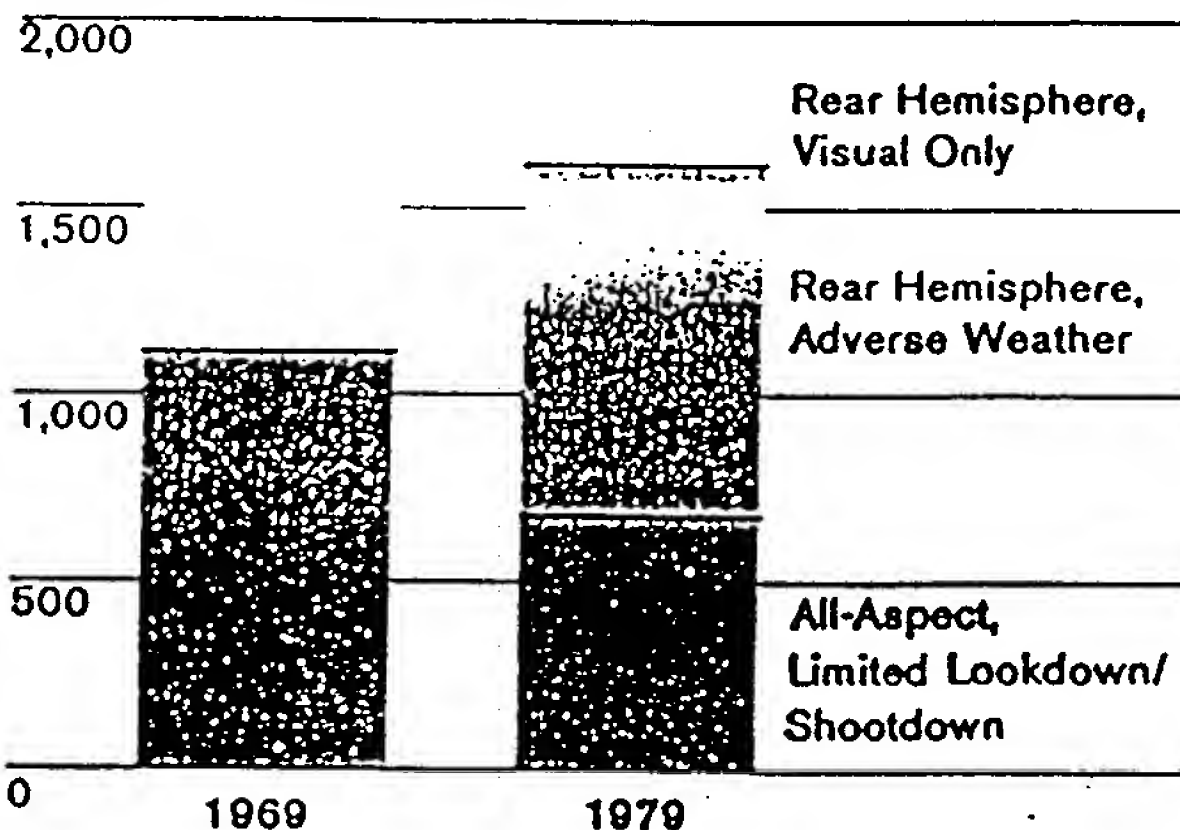
44. *Pilot Training and Proficiency.* By US standards the Soviet Frontal Aviation flight training program is more conducive to perfecting a pilot's basic flying skills than to preparing him for combat. A typical Soviet pilot spends four years in a flying school and an additional three to four years training in an operational combat unit before he is considered qualified, by Soviet standards, to carry out the full range of combat missions assigned to his unit. In conducting operational training, a Soviet tactical pilot flies approximately the same number of sorties per year as his US counterpart, but the sorties are less than half as

# Avionics Trends in Warsaw Pact Tactical Aircraft Opposite NATO, 1969 and 1979

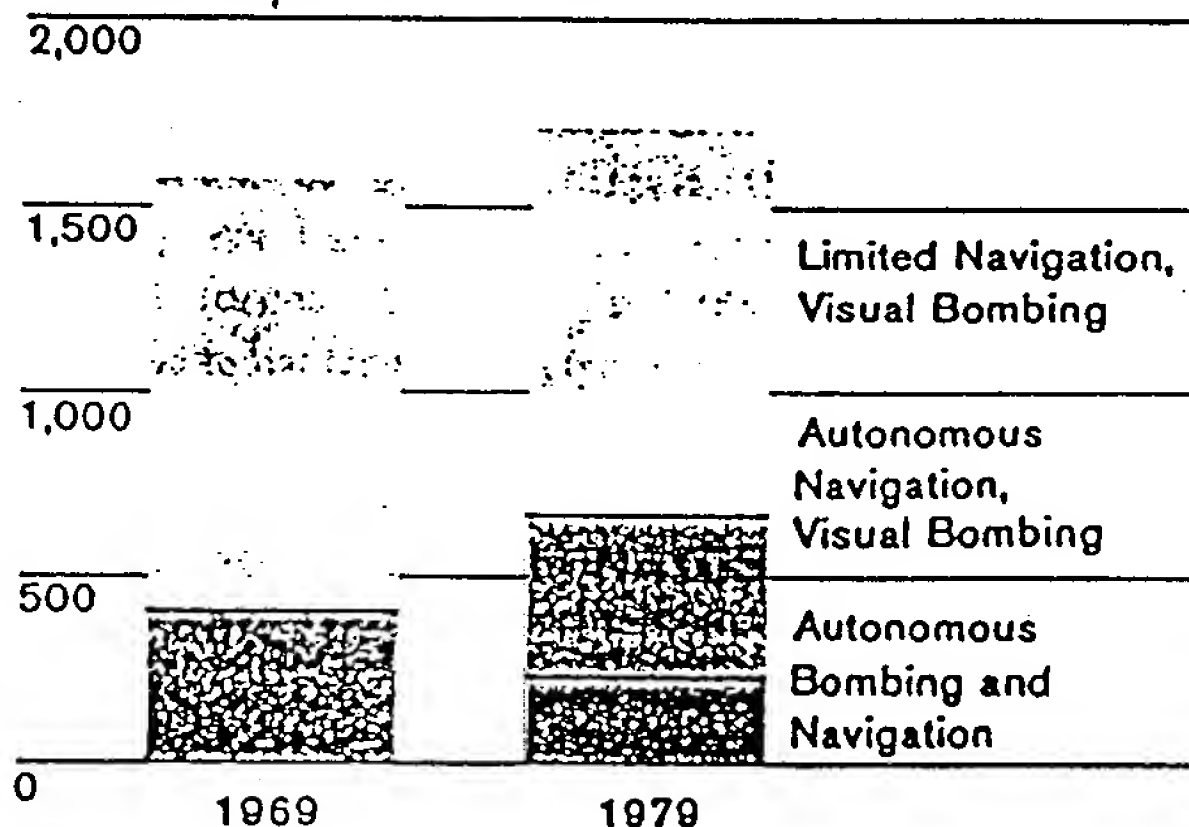
Figure 8

Number of Aircraft

## Fighter Air-to-Air Avionics



## Fighter-Bomber and Light Bomber Bombing/Navigation Avionics



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long in duration and involve far fewer combat-related training events.<sup>11</sup>

45. Despite increases in the number of pilots assigned to Soviet units in the forward area, the overall

<sup>11</sup> Chapter II of volume II contains a discussion of differing agency views on the amount of combat-related training received by Soviet tactical air pilots.

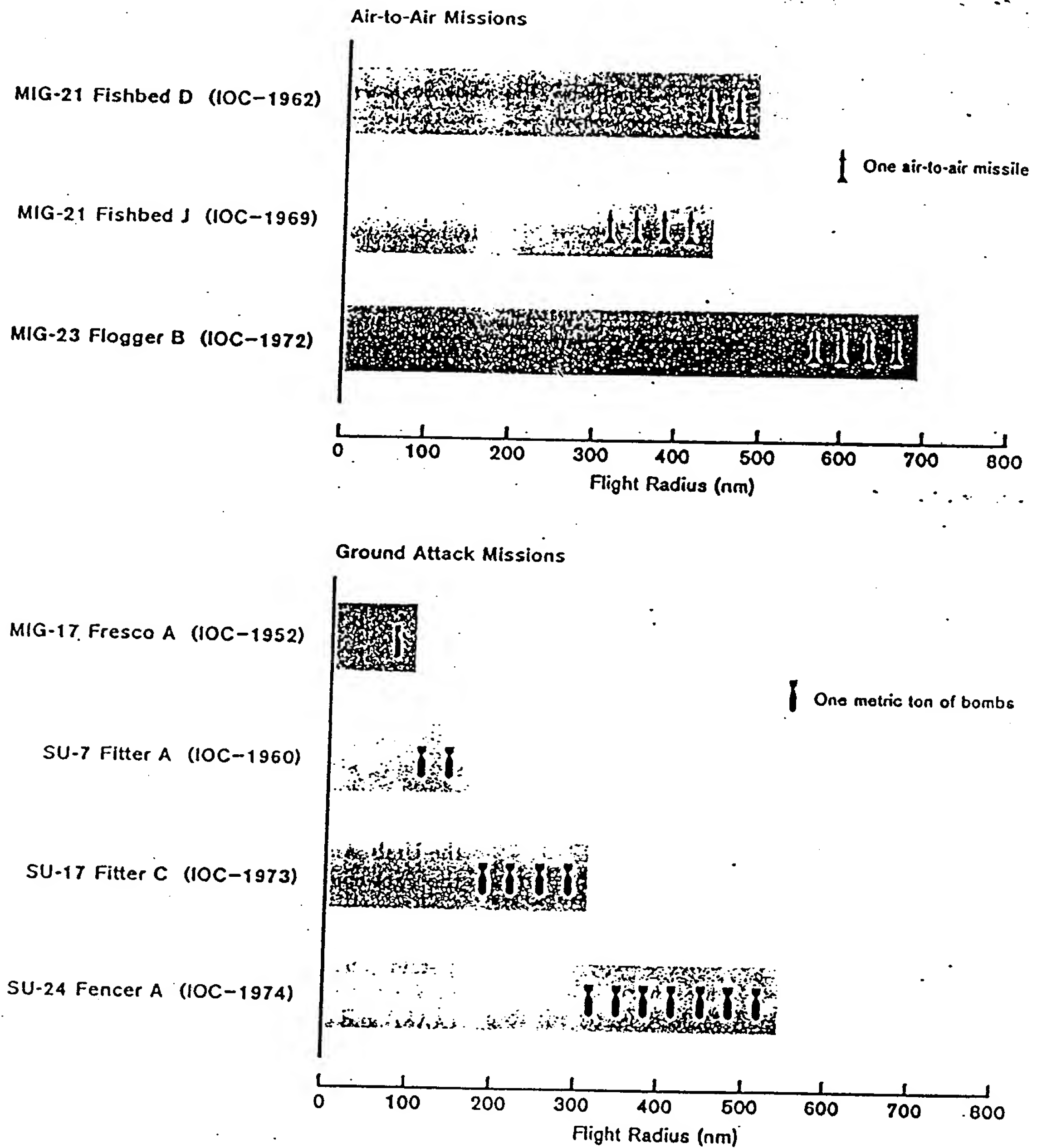
combat capability of these units continues to be hampered by those pilots—25 to 35 percent of the total available—who are not qualified to conduct night or all-weather combat missions. Moreover, pilot proficiency has not progressed sufficiently to exploit fully the capabilities of the airframes and weapon systems of the third-generation aircraft currently in operation. The Soviets acknowledge that their combat pilots are not trained as effectively as they should be, but, for reasons that are not clear to us, they do not appear to be taking major corrective measures to enhance the quality of training significantly. Such steps would include devoting a greater share of training time to the performance of combat-related tasks and introducing more realism by exposing these pilots to enemy tactics and simulated hostile air defense environments.

46. **Base Structure.** The Warsaw Pact has an extensive airfield network from which to launch and sustain military air operations. In the USSR west of the Urals there are some 230 active military airfields; the Soviets also operate 40 military airfields in the NSWP countries. Eighty-four airfields operated by the NSWP air forces complement the Soviet base structure. There are hundreds of other airfields—civil, factory flyaway, and unoccupied (including dispersal) fields, highway strips, and fields with temporary surfaces—which could be used by military aircraft.

47. Since 1970, the Pact nations have completed construction of at least 11 new military airfields, started construction of at least nine others and significantly improved the runway capability at 62 military airfields in the NSWP countries and the USSR west of the Urals. All major military and most civil airfields in the Pact countries have been or are being equipped with modern lighting, improved navigational aid equipment, more adequate and improved refueling systems, and other ancillary support facilities. Installations for the storage, testing, and handling of air-to-air (AAM) and air-to-surface (ASM) guided missiles have been identified at most military airfields which have aircraft equipped with these weapons. Approximately 3,400 shelters (hangarages) have been built since the late 1960s to protect aircraft at main Pact operating bases in the USSR west of the Urals and in the NSWP countries. Other defensive improvements include hardening and increasing POL and ammunition storage facilities, hardening command and control facilities, and establishing pipeline systems to service aircraft in shelters.

# Radius and Payload Capabilities of Selected Pact Tactical Aircraft\*

Figure 9



\*Flight radii shown for air-to-air missions were calculated using maximum missile loads and external fuel tanks. Flight radii shown for ground attack missions were calculated using maximum bomb loads which do not permit use of external fuel tanks.

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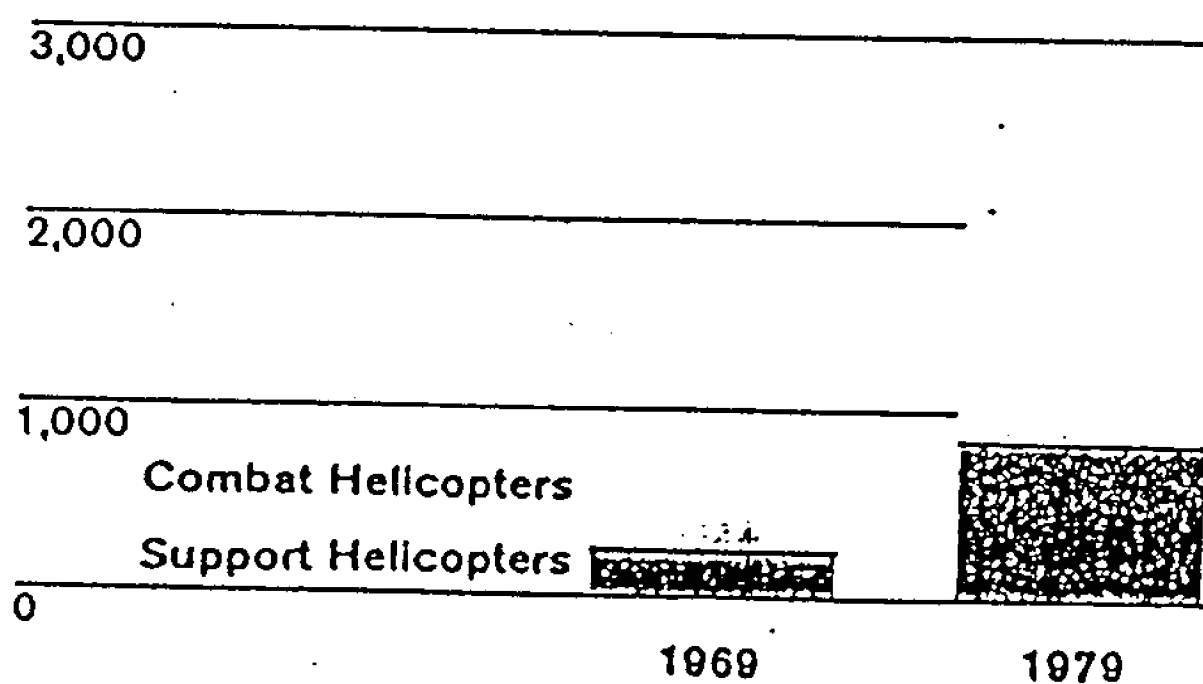
48. This airfield development program has achieved four specific objectives. First, the Soviets have expanded their pilot and navigator training capability by building new training airfields and improving existing ones. Second, they have improved their airfield capability within the Soviet Union to support their new, longer range, higher performance ground attack fighter aircraft and the Backfire bomber. Third, all Pact nations have increased the survivability and sustainability of their combat air forces. Fourth, they have increased their capability to conceal and protect large numbers of aircraft in bunkers. The overall net effect of the Pact military airfield development since 1968 is a greater capability to conduct both offensive and defensive air operations.

#### Helicopter Forces

49. Warsaw Pact helicopter forces have two primary missions: combat and combat support. Combat helicopters include those assigned to units responsible for attacking ground targets or transporting assault troops. Opposite NATO, the Pact has assigned some 1,700 combat helicopters to this mission. Of these, about 300 helicopters have as their primary mission the attack of ground targets; the remaining 1,400 helicopters have a primary mission of transporting assault forces. An additional 900 helicopters are assigned to Pact units opposite NATO for various com-

Increase in Warsaw Pact  
Helicopters Opposite NATO,  
1969 and 1979

Figure 10



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bat support roles, including rescue, communications relay, airborne command posts, artillery spotting, electronic warfare, and liaison. A significant development in recent years has been the introduction of heavily armed helicopters. Figure 10 shows the increase in the number of Pact helicopters opposite NATO since 1969.

#### Military Transport Aviation

50. VTA operates some 665 medium and heavy transport aircraft. Most of these aircraft are based in the western USSR. The primary mission of VTA is to lift Soviet airborne forces but other missions include the movement of troops, equipment, supplies, and nuclear weapons. A mission which has been expanded recently is the delivery of economic and military assistance material to Soviet client states in the Third World. Although the total number of VTA transports has remained relatively stable since the late 1960s, the overall capabilities of the force have clearly been improved through the introduction of new aircraft. Civil aircraft from Aeroflot provide supplemental support to VTA and include about 1,300 medium- and long-range transports.

51. The movement of all unit equipment and the 7,300 personnel assigned to an airborne division would require the entire lift capacity of VTA. Assuming an aircraft serviceability rate of about 85 percent, VTA's total serviceable fleet probably would prove inadequate for a full division lift. In combat operations, however, airborne units would probably leave behind their administrative personnel and some equipment such as trucks. We calculate that VTA could lift the assault elements of two airborne divisions simultaneously, including combat and combat support equipment with some transport, supplies, and support elements. With nearly all VTA airlift assets and Soviet airborne divisions deployed in the western USSR, VTA's airborne assault potential is clearly targeted toward Central Europe and NATO's flanks.

#### NSWP National Air Defense Forces<sup>13</sup>

52. Each of the NSWP countries maintains a national air defense force consisting of fighter-interceptor units, surface-to-air missile units, and a radar network:

<sup>13</sup> For a discussion of Soviet strategic air defense capabilities, see NIE 11-3/8-78.



In effect, these forces constitute a forward extension of Soviet strategic air defenses. The SAM units are predominantly equipped with SA-2s, but some countries also have SA-3s. The interceptor components number about 1,200 fighter aircraft, which, in addition to their primary mission of defense of the national airspace, could provide limited support to ground forces.

### General Purpose Naval Forces

53. The Soviet Navy has in the past decade or so significantly improved its capability to participate in a Pact-NATO war. In addition to providing support to the Pact's ground forces and defending the Pact's maritime frontiers, the Soviet Navy can now undertake combat operations at greater distances from home waters.

54. Soviet general purpose naval forces opposite NATO are from the Northern, Baltic, and Black Sea Fleets. (See figure 11.) The Northern Fleet carries the major burden of operations in the Barents and Norwegian Seas and in the Atlantic. The fleets in the Baltic and Black Seas, together with navies of four NSWP countries, are tailored primarily for control of those two seas and for the support of land operations against NATO along the shores of and at the entrances to these seas. For operations in the Mediterranean Sea, the Black Sea Fleet furnishes most of the surface ships and the Northern Fleet the submarines.

55. Warsaw Pact general purpose naval forces include submarines, surface ships, and aircraft. (See table 2.) The general purpose submarine force consists of cruise missile and torpedo attack submarines. The principal surface combatants are about equally divided between frigates and larger ships of missile frigate, destroyer, and cruiser size. The role of sea-based aircraft is clearly emerging in the Soviet Navy with the construction of three Kiev-class aircraft carriers, following the two Moskva-class helicopter ships which entered the inventory in the late 1960s. Smaller surface combatants include mine warfare ships, submarine chasers, and missile-armed patrol craft. Soviet Naval Aviation (SNA) has three principal combat components distinguished by roles: antiship strike, reconnaissance and electronic warfare, and antisubmarine warfare (ASW). Trends since 1969 in the composition of Pact general purpose naval forces opposite NATO are shown in figure 12.

Table 2

### Warsaw Pact General Purpose Naval Forces Opposite NATO<sup>a</sup> January 1979

	Soviet <sup>b</sup>	NSWP	Total
General purpose submarines			
Cruise missile	43	—	43
Torpedo attack	135	8	143
Aircraft carriers	1 <sup>c</sup>	—	1
Helicopter ships	2	—	2
Cruisers	26	—	26
Destroyers	49	1	50
Missile frigates	19	—	19
Frigates	102	4	106
Selected minor surface combatants <sup>d</sup>	278	85	363
Amphibious ships	66	34	100
Selected support ships <sup>e</sup>	85	4	89
Naval aircraft <sup>f</sup>			
Reconnaissance/EW	84	10	94
Strike	254	—	254
Tankers	56	—	56
Fighter/fighter-bomber	71	52	123
ASW fixed-wing	105	—	105
ASW/reconnaissance helicopters	164	48	212

<sup>a</sup> The NSWP navies and the Soviet forces assigned to the Northern, Baltic, and Black Sea Fleets. Detailed order-of-battle data for these and Soviet Pacific Fleet naval forces are contained in tables B-4, B-5, and B-6 in annex B of volume II.

<sup>b</sup> Figures exclude some 100 attack submarines and 30 principal surface combatants kept in reserve status. Chapter II of volume II discusses differing agency views on Soviet capabilities to activate reserve submarines.

<sup>c</sup> A second Kiev-class aircraft carrier is operational in the Black Sea, but we believe it will deploy to the Pacific Fleet.

<sup>d</sup> Patrol combatants, mine warfare ships, and missile-equipped coastal patrol craft.

<sup>e</sup> Oilers, replenishment oilers, missile tenders, repair ships, and submarine tenders.

<sup>f</sup> In addition, there are about 120 transport aircraft and 105 transport helicopters which support Soviet Naval Aviation.

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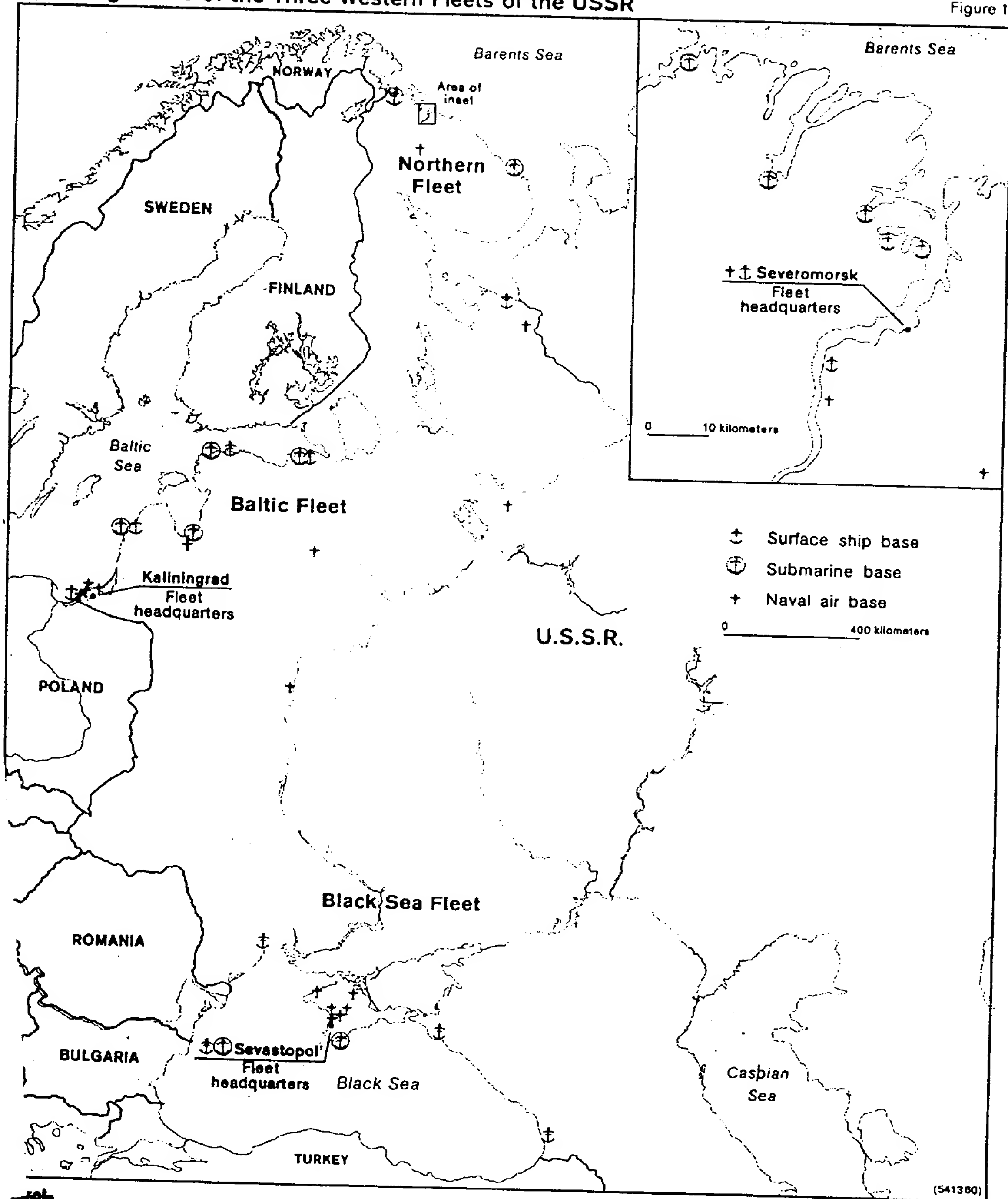
### Major Wartime Tasks

56. The wartime missions of the Warsaw Pact's general purpose naval forces are to exercise sea control in waters from which NATO's sea-based air and ballistic missile strike and amphibious forces can reach the Soviet Union, to support and protect Soviet ballistic missile submarines, to exercise sea denial in the sea lanes necessary for resupply and reinforcement of

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Operating Bases of the Three Western Fleets of the USSR

Figure 11



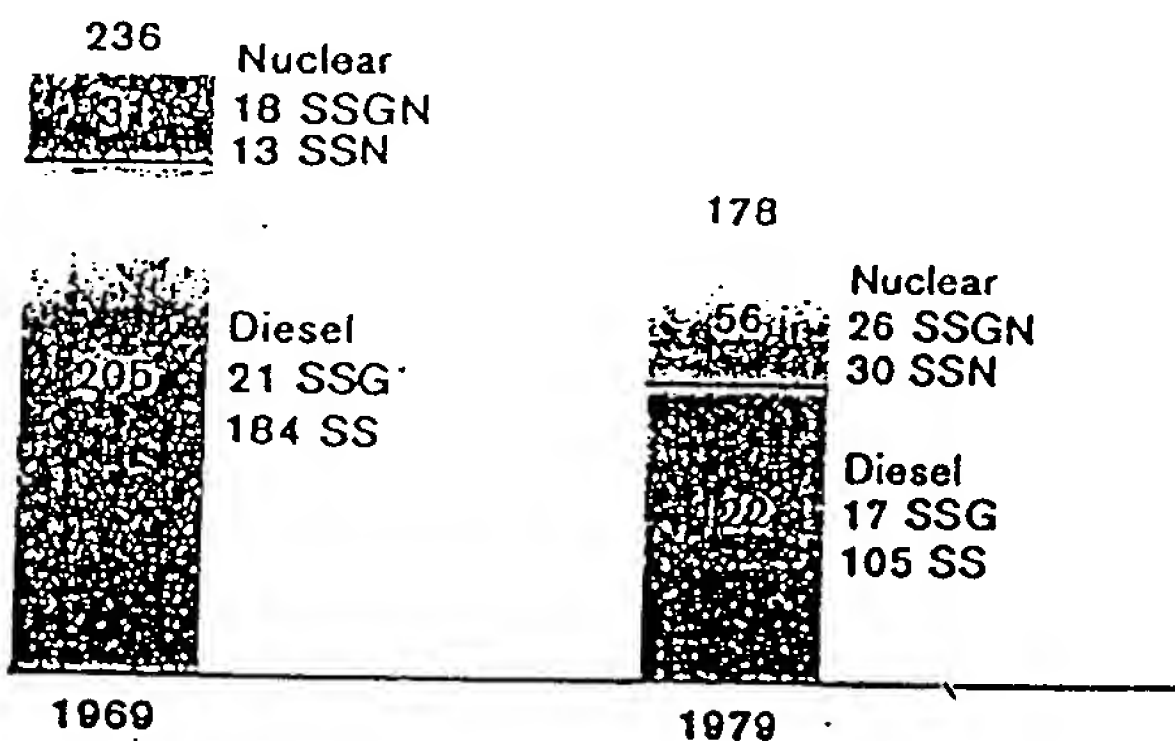
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# Soviet Naval Forces Opposite NATO, 1969 and 1979

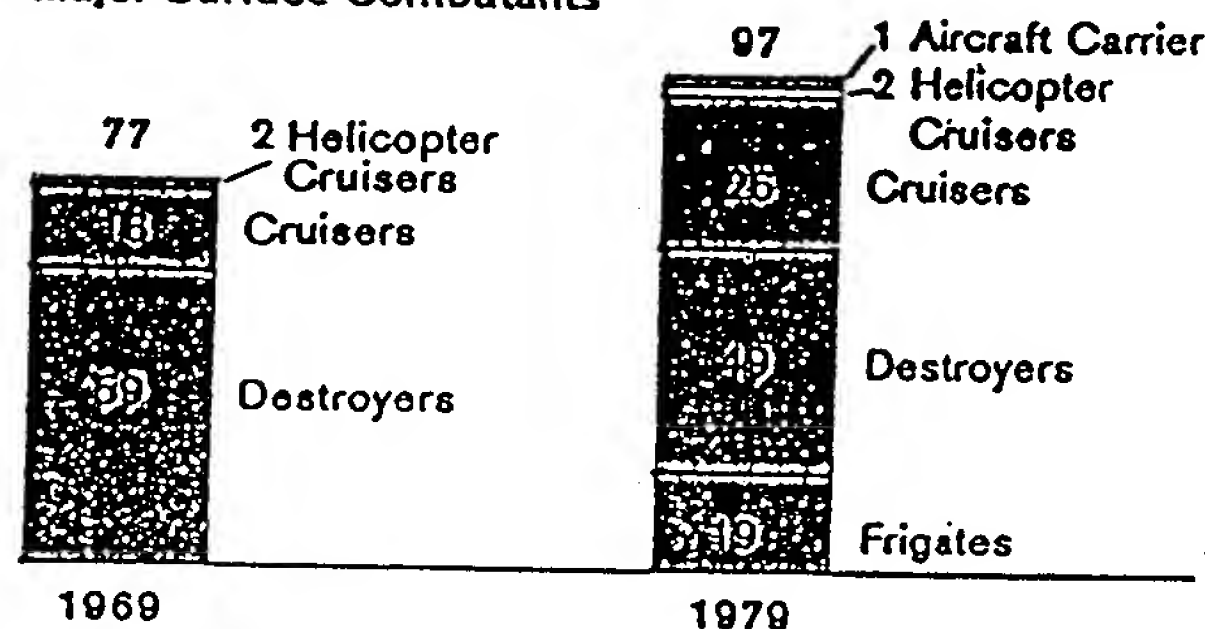
Figure 12

Three Soviet Western Fleets

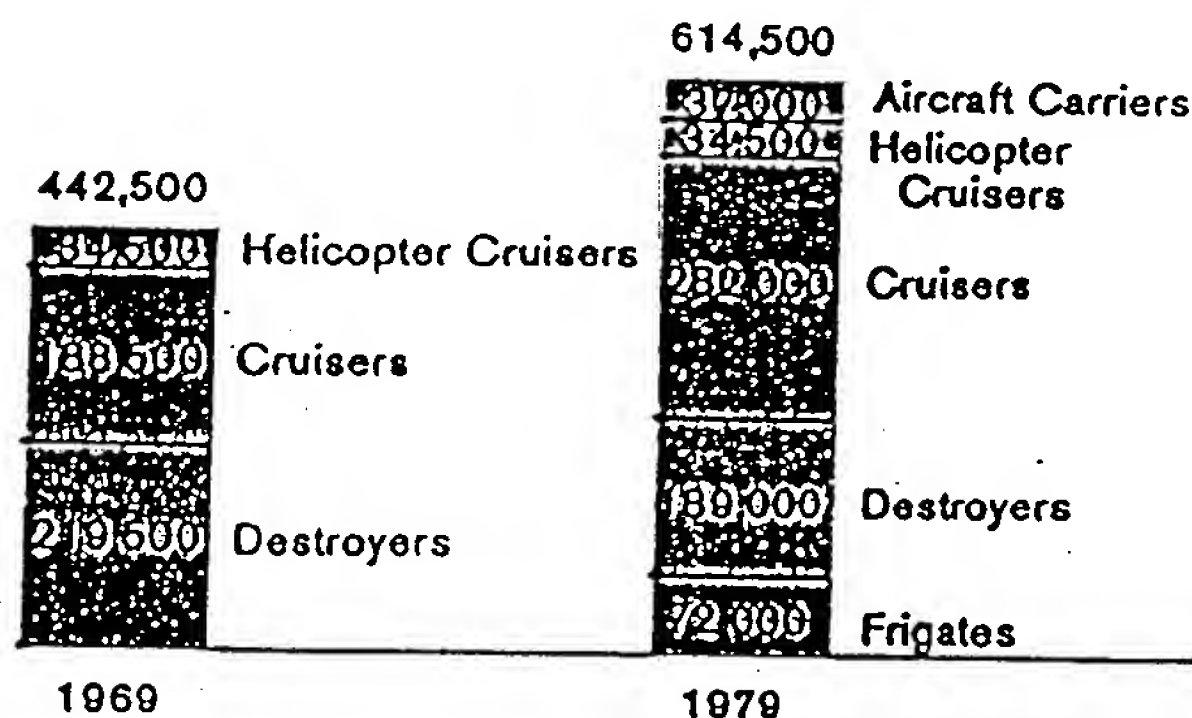
## Cruise Missile and Torpedo Attack Submarines



## Major Surface Combatants



## Tonnage of Major Surface Combatants



<sup>a</sup>Excludes reserve units.

<sup>b</sup>Combatants over 3,000 tons, excluding reserve units.

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Europe from the United States, and to project power ashore in support of Pact ground forces. Although the relative emphasis that would be placed on each of these missions in a conflict would depend upon the way hostilities were initiated and the course of the war, the Soviets in their major exercises have focused on ASW and attacks on carriers, cruisers, and amphibious task forces.

57. *Antiwarship Capabilities.* Soviet Navy resources capable of acting to counter NATO's surface naval forces include missile-equipped bombers, submarines, and surface combatants which are supported by ocean surveillance systems, including ELINT and radar satellites and aircraft, for detecting, identifying, and tracking potential surface targets. The major weakness of the Soviet ocean surveillance system is its heavy reliance on electronic emissions from potential targets. When NATO forces implement emission control (EMCON) conditions, which occur during NATO exercises, Soviet surveillance capabilities are impaired, sometimes drastically.

58. The Soviets have 43 antiship cruise missile submarines in their western fleets for deployment in the Atlantic and European theater area. Four submarine-launched antiship cruise missile (ASCM) systems are operational, each capable of delivering either conventional or nuclear warheads. Deployed units probably carry an equal mix of high-explosive and nuclear warheads. They probably also carry at least two nuclear torpedoes.

59. In addition to cruise-missile submarines, the Soviet western fleets include 30 nuclear-powered and some 59 long-range F-, Z-, and T-class diesel-powered attack submarines. Most Soviet nuclear attack submarines are fast—27 to 32 knots—and, despite relatively high noise radiation, could be effective in antiship operations. Soviet long-range diesel submarines are much slower than the nuclear units. They are particularly susceptible to detection when snorkeling, but can remain submerged for extended periods. In addition there are medium- and short-range diesel units which would likely be employed in areas closer to the Soviet Union.

60. The Soviet Navy has some 215 missile-equipped bomber aircraft opposite NATO for antiship attacks. They include about 175 TU-16 Badgers and some 40 Backfires. These aircraft carry four types of missiles with various flight profiles and speeds and maximum ranges of from 80 to about 200 nm (150 to 370 km).

There are also about 40 TU-22 Blinder A's which could be used for bombing and mining. Naval TU-16 Badgers, which first entered service in 1957, are relatively large and slow-moving by current standards. They are highly vulnerable to modern air defenses such as those of well-defended aircraft carrier task groups. The improvements in their missile and electronic warfare systems, however, have maintained them as firstline strike aircraft.

61. The introduction of some 40 Backfire bombers into the Baltic and Black Sea Fleet air forces to date has significantly improved the strike capability of the Soviet Navy against NATO surface forces.<sup>14</sup> Because of the modern, higher speed air-to-surface missile it carries, its variable flight profiles, its maneuverability, and its high-speed capabilities, the Backfire has a higher probability of penetrating NATO naval air defenses and attacking targets in the open ocean than does the Badger. Also, it is far more capable than the Badger of crossing potentially hostile land areas, such as Turkey and Greece, and operating over the Mediterranean.

62. In the antiship role, wartime operational considerations probably would tend to dictate the use of Backfires for strikes against important NATO warships in certain key areas. These areas would include the North Atlantic at least as far south as the Greenland-Iceland-United Kingdom (G-I-UK) gap, the North Sea, and the Mediterranean. The operational constraints tending to limit the use of Backfires include mission planning allowances for combat maneuvering, and requirements for routing around and penetrating NATO air defenses. Aerial refueling could add flexibility for the employment of Backfires; however.

63. The three Soviet western fleets have 14 principal surface combatant ships armed with antiship cruise missiles. Six of these ships have long-range (160 to 300 nm, or 300 to 550 km) missiles. To fire these missiles accurately to their maximum range requires that these ships obtain external targeting support. Other Soviet surface combatants opposite NATO which are equipped with antiship cruise missiles include some 90 missile patrol boats. Except for the SS-N-2 series, all current Soviet antiship cruise missiles are believed capable of carrying a nuclear or a

conventional warhead. The surface-to-air systems aboard some 75 Soviet principal surface combatants can also be used against surface ships.

64. The Soviet naval air forces opposite NATO have in the past few years added some 40 shore-based SU-17 Fitter C/D and some 35 carrier-based YAK-36 Forger V/STOL (vertical/short takeoff and landing) aircraft which improve their overall capabilities against NATO naval surface forces. There is insufficient evidence to judge how the Soviets would use either of these aircraft against ships at sea or how effective they might be in wartime. Most Forger training thus far has been of the kind useful for attacks against ships at sea. The Fitters, however, all of which are based in the Baltic, are probably intended for ground attack in support of amphibious operations and antiship attacks.

65. Although the Soviets have a large inventory of ships, submarines, and aircraft capable of conducting attacks on NATO ships, the successful accomplishment of such strikes under wartime situations depends on a variety of factors. Among the most significant are: the effectiveness of Soviet ocean surveillance and electronic warfare, the number of launch platforms available for antiship use, the achievement of strategic or tactical surprise, and whether nuclear weapons are used by the Soviets or NATO. With accurate targeting and the use of nuclear weapons in surprise attacks, the Soviet naval forces normally deployed in peacetime would constitute a severe threat to NATO carriers and amphibious task groups in European waters. Timely warning of a Soviet attack, however, would allow NATO task forces to take action which could enhance their survivability.

66. *Antisubmarine Warfare Capabilities.* In a NATO-Warsaw Pact conflict, the Pact's antisubmarine warfare tasks would be varied and extremely difficult. The Pact navies must seek out Western ballistic missile submarines (SSBNs) and counter Western attack submarines. Attacks on Western SSBNs would have to be undertaken in their worldwide patrol and base areas. The task of countering attack submarines would be markedly different for protecting Pact forces in the approaches to the USSR, on the one hand, and for the protection of Soviet naval operations in more distant waters, on the other.

67. Pact ASW capabilities on the whole are extremely limited. The crucial Soviet shortcomings are lack of long-range submarine detection devices, the

<sup>14</sup> See NIE 11-3/8-78, NIE 11-6-78, and volume II, chapter II, of this Estimate for details of the differing agency views of the Backfire's capabilities.



high radiated noise levels of Soviet submarines relative to those of the West, and the lack of seaborne tactical air cover to protect deployed surface ship ASW forces. Nonetheless, virtually all modern Soviet surface combatants carry ASW weapons and sensors, and large numbers of Soviet aircraft and helicopters are fitted for ASW operations.

68. The forces opposite NATO which are most capable of ASW operations beyond coastal waters include about 50 Soviet principal surface combatants,<sup>15</sup> 30 nuclear-powered torpedo attack submarines, and about 45 fixed-wing ASW aircraft.<sup>16</sup> The 16 ships with helicopters (those of the Kiev, Moskva, Kara, and Kresta-II classes) and the Krivak frigates are equipped with long-range (15 to 30 nm, or 28 to 56 km) ASW weapons. Only the Kiev- and Moskva-class units combine these features with a long-range (typically less than 10 nm) active sonar and more than one helicopter. Soviet ASW helicopters, however, are limited in their ASW operations at night and in bad weather.

69. Other Soviet forces opposite NATO—designated primarily for coastal ASW—are much more numerous, but their individual capabilities are generally poorer. These include about 155 minor surface combatants with sonars, about 45 short- and medium-range diesel submarines, nearly 60 short-range fixed-wing ASW aircraft, and about 100 shore-based ASW helicopters. In addition, the Polish, the East German, and, to a lesser degree, the Bulgarian and Romanian Navies have a variety of units which are trained for coastal ASW defense and are being integrated into the combined Pact fleets in the Baltic and Black Seas.

70. The quietness of Western submarines, the technical characteristics of the Pact equipment, and Pact signal-processing capabilities combine in most cases to restrict severely the range [

]at which Western submarines can be detected. Locating data could be provided at greater ranges through detection of periscopes or other masts with surface search radars (especially in low sea states) or through HF/DF (high-frequency direction finding) of radio transmissions in the cases in which they occur.

71. In waters beyond the Pact's coastal regions, Soviet ships and submarines, including those best

<sup>15</sup> Ships of the Kiev, Moskva, Kresta-II, Kara, Kashin, Mod-Kashin, and Krivak classes.

<sup>16</sup> IL-38 Mays and TU-142 Bear-F's. Chapter II of volume II outlines differing agency views on the combat radius of the TU-142 Bear-F long-range ASW aircraft.

equipped for ASW, are vulnerable to attack by NATO submarines. [

] 72. Nevertheless, there are situations, particularly in their own coastal waters and ocean areas over which they have temporary control, in which Pact ASW forces might be able to prevent NATO submarines from disrupting key maritime operations. Soviet and combined Pact amphibious and convoy exercises often include substantial numbers of units employed as ASW screening forces, and in wartime such tactics could well be effective—especially in areas accessible to Soviet air forces, or in operations against the less capable NATO submarine forces.

73. *Capabilities for Exercising Sea Control in the Sea Approaches to the Soviet Union.* In theater hostilities in Europe, a high-priority task of the Pact navies would be to ensure that their sea approaches were secure and open to Pact use. Pact strategy calls for establishing sea control in the Norwegian and Barents Seas and in the closed seas—the Baltic and Black Seas—thus denying these waters to the enemy. The Pact navies maintain the bulk of their naval forces in these areas, including some principal combatants, and large numbers of smaller combatants, submarines, and ASW aircraft. These forces continue to receive new ships with the latest attack and air defense missiles, sonars, torpedoes, and mine-warfare equipment. They can be supported by fighter and attack aircraft of the Soviet Air Defense Forces and Frontal Aviation. The Pact has also concentrated coastal defense missile and artillery batteries to defend ports, bases, and other critical facilities.

74. In addition to using the forces described above to attack approaching NATO naval forces, the Pact would probably lay defensive minefields, particularly in key areas. Although there is little specific evidence from exercises or military writings, the large number of ships for mining—as well as the submarines and aircraft capable of laying mines—suggests that the

Soviets probably plan to conduct mine warfare on a considerable scale. Additionally, naval exercises indicate that the Pact expects to conduct countermine operations against NATO mining in approaches to Pact countries.

75. *Capabilities for Exercising Sea Denial in NATO Sea Lines of Communication.* In wartime, the Soviets probably would attempt some sea denial operations in NATO's sea lines of communication by attacking noncombatant ships—merchant vessels and naval auxiliaries—on the high seas, striking ports and harbors, and mining heavily traveled waters. The extent of the commitment of forces to an interdiction effort would depend on a number of factors such as the emphasis on operations against carriers, amphibious ships, and SSBNs; the course of the conflict; the level at which it is initiated; Soviet expectations as to the degree and pace of escalation; and the extent of Pact and NATO mobilization. See the inset on pages 42 and 43 for a discussion of differing agency views of Soviet intentions and capabilities for exercising sea denial in NATO's sea lines of communication.

76. *Amphibious Capabilities.* The Soviets have some 6,000 men in their Naval Infantry forces opposite NATO. The basic unit is the naval rifle regiment, totaling about 1,900 men in three infantry battalions, a tank battalion, and supporting units. Three regiments have been identified, one in each western fleet area. The Naval Infantry depends heavily on its tanks and armored vehicles, but is constituted primarily for mobility rather than for firepower. Its tasks are to spearhead amphibious assaults against mainland and island beachheads and to attack in the rear of enemy formations—in both cases in support of the ground campaign. In some cases, Naval Infantry units would be immediately reinforced from the sea by ground forces trained for followup amphibious landings.

77. The amphibious elements of NSWP countries would be available to augment the Soviet Naval Infantry forces. In the Black Sea area, the combined strength of the Soviet, Bulgarian, and Romanian amphibious forces total some 4,400 men. However, the Bulgarian and Romanian elements are not nearly as well trained as their Soviet counterparts and do not have sufficient lift capacity to carry all of their men and equipment in a single assault operation. These countries do not usually engage in combined amphibious exercises with the Soviets. In the Baltic, however, where large combined operations recently have oc-

curred, the Soviets, Poles, and East Germans have the equivalent of four naval infantry regiments totaling some 8,000 men. Although the Polish and East German Navies are capable of transporting less than half of their assault troops in a single lift, turnaround time for subsequent lifts could be rapid.

78. Control of the airspace over an amphibious landing area in Europe would be a prerequisite for establishing a beachhead. Because the majority of likely Warsaw Pact amphibious objectives would be within the range of Soviet or East European airfields, land-based tactical aircraft could be made available to support the assault forces. The Soviet Fitter C/D regiment in the Baltic Fleet Air Force and some 50 MIG-17 Fresco aircraft of the Polish Navy probably would support amphibious operations in the Baltic Sea.

#### Theater Nuclear Forces

79. Pact nuclear weapons which could be employed in a theater war against NATO are of two distinct types: tactical nuclear weapons in the hands of Soviet general purpose forces and Soviet strategic nuclear weapons. (See table 3.)

Table 3  
Warsaw Pact Theater Nuclear Forces  
Opposite NATO  
January 1979

	Soviet	NSWP	Total
<b>Tactical forces:<sup>a</sup></b>			
Aircraft	2,505	135	2,640
Missile launchers	850	310	1,160
Artillery	288	—	288
<b>Strategic forces:<sup>b</sup></b>			
Land-based missile launchers	490-508 <sup>c</sup>	—	490-508
Long Range Aviation bombers	525	—	525
Submarine-launched ballistic missiles	33	—	33

<sup>a</sup> Includes Soviet and East European forces in the non-Soviet Warsaw Pact (NSWP) countries (East Germany, Poland, Czechoslovakia, Hungary, Romania, and Bulgaria) and Soviet forces in the Baltic, Belorussian, Carpathian, Leningrad, Odessa, Kiev, North Caucasus, and Transcaucasus Military Districts of the USSR.

<sup>b</sup> Includes only those Soviet strategic forces for peripheral strike which are chiefly intended for use against NATO.

<sup>c</sup> Range reflects uncertainty about the operational status of two SS-20 bases.

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Successful attacks on noncombatant ships at sea would depend primarily on the availability and capability of Soviet attack submarines for this mission. The combat radii of Soviet ASM-equipped naval aircraft would rule out their use—if operating out of Soviet bases—over most of the length of the more southerly sea lanes to Great Britain and France. They have some capability near Great Britain, but unless air defenses there were destroyed, such strikes could be more costly than the expected results might warrant.

The Soviets currently maintain an active inventory of about 180 cruise-missile and torpedo attack submarines in their western fleets. Of these, the some 115 long-range units based in the Northern Fleet, the only fleet in the western USSR with largely unrestricted access to the North Atlantic sea lanes, form a potential strike force for interdiction. The demands placed on resources by the Soviet Navy's other missions would limit the number of submarines available for interdiction because large numbers of Soviet naval forces would have to be devoted to controlling the Baltic Sea, the Black Sea, and much of the Norwegian Sea, as well as their approaches, against incursion by Western carriers, amphibious forces, and submarines, and because a portion of the Soviet attack submarine force probably would be committed to operations against NATO naval bases and in the open ocean.

There is disagreement within the Intelligence Community concerning the extent, emphasis, and timing of the interdiction campaign. Some believe<sup>a</sup> that the Soviets would commit some of their submarine fleet to an interdiction campaign, but not a large portion unless they had earlier defeated NATO carrier and amphibious forces without losing many of their submarines. Others believe<sup>b</sup> that the Soviets would regard interdiction of US reinforcements to Europe to be of such significance and their submarine inventory of sufficient size to warrant use of substantial numbers of attack submarines in this effort while still accomplishing their other missions.

Those holding the former view believe that the Soviets would be deterred from seriously trying to exploit the West's

<sup>a</sup> The holders of the first view are the Central Intelligence Agency; the Director, National Security Agency; and the Director, Bureau of Intelligence and Research, Department of State. The Director of NSA further believes that the extent and degree of a campaign against sea lines of communication is largely scenario dependent and that, in a prolonged crisis, where the outcome is in serious doubt, the attractiveness of interdicting sea lines in advance of a conflict goes up.

<sup>b</sup> The holders of the second view are the Director, Defense Intelligence Agency, and the Director of Naval Intelligence, Department of the Navy.

dependence on long sea lines of communication unless attrition—or Western strategy—reduced the threat from NATO's nuclear strike and projection forces. According to this view, the presence of NATO carriers in or near areas like the Norwegian and Mediterranean Seas would cause the Soviets to commit large forces in counteraction, heavy losses would result, and the Soviets would lack the submarines to engage simultaneously in strong antifleet and antishipping operations. Those holding the latter view believe that the timing and extent of Soviet interdiction operations depend more upon the disposition and tactics of NATO naval forces and upon Soviet intentions and expectations as to the course of the conflict, than upon the prior achievement of other naval tasks. According to this view, circumstances such as an early stalemate in Central Europe or a NATO decision not to deploy carrier and amphibious forces immediately into the Norwegian Sea would lead the Soviets to mount a substantial interdiction effort during the early phase of a conflict when NATO would be conveying critical war material, including elements of US divisions and their equipment, to Europe.

There are also disagreements over Soviet capabilities to execute an interdiction campaign, irrespective of the Soviet commitment to interdiction. These disagreements stem from different judgments and interpretations of evidence regarding: torpedo loads, replenishment opportunities, turnaround time, transit distance, combat attrition, and target information.

—Torpedo Loads. According to the first view, Soviet naval strategy stresses the likelihood of a short nuclear war and the importance of striking a few high-value targets. The torpedo capacities of Soviet submarines are consistent with this strategy, but would severely limit the number of attacks against merchant ships the submarines could make while on station during an interdiction campaign. Soviet cruise missile submarines, which constitute nearly one-third of the USSR's fleet of long-range general purpose submarines, carry few [ ] torpedo reloads. [ ]

[ ] The second view holds that the Soviet long-range attack submarines most likely to participate in such a campaign (principally the N-class, F-class, and T-class) clearly



carry sufficient torpedoes to conduct a significant number of attacks on Western shipping. Additionally, the loading of individual submarines would be contingent on assigned missions; submarines would not necessarily have a mix of different weapon types in wartime as is customary in peacetime.

- **Replenishment Opportunities.** The first view holds that Soviet submarines would have to return to home waters for resupply, that Soviet naval support ships probably would not operate outside Soviet-controlled waters because they would be vulnerable to attack, and that any Soviet merchant ships at sea when war began probably would not be available by the time the submarines exhausted their torpedoes. According to the second view, Soviet long-range attack submarines can operate for periods of weeks without having to refuel and, conceivably, could take on fuel from Pact merchant ships, and an individual submarine would probably have sufficient time to attack its targets before having to return to base for torpedo reloading.
- **Turnaround Time.** All agree that Soviet submarines would have to spend some time in port between patrols. The first group believes it might be as long as 25 days, which was the German experience in World War II. The second believes the time could be compressed to less than 25 days, especially in a period of intense conflict.
- **Transit Distance.** Holders of the first view believe that the effectiveness of Soviet submarines would be impaired by the distance between the Northern Fleet submarine bases and the North Atlantic sea lanes. They point out that, if NATO convoys were routed southward to reduce the danger from Pact aircraft, Soviet submarines would have to travel 2,500 to 3,500 nm; nuclear-powered submarines traveling at 12 knots would spend about 22 days in a round trip (6,000 nm) to the sea lanes, while diesels averaging 5 knots would spend 54 days in transit. The others note that, despite the long transit distances, Soviet long-range attack submarines have the range to undertake patrols in the North Atlantic sea lanes of sufficient duration to have ample opportunity to attack a number of Western ships.
- **Combat Attrition.** All agree that Soviet submarines based in the Northern Fleet would have to travel through the Norwegian Sea and the G-I-UK gap, areas which favor NATO ASW efforts, and that, even when these submarines are on station, their operating areas would be continuously within range of NATO's land-

based ASW aircraft, as well as of other ASW platforms. The first view is that the resultant combat attrition would be prohibitive. The second is that, although Soviet submarines would be particularly open to attack by Western ASW forces at several points, this threat would be reduced by Soviet attacks against NATO ASW aircraft and bases, on SIGINT facilities, and on facilities of the US sound surveillance system (SOSUS).

- **Target Information.** The first group believes that it would be difficult for attack submarines to identify high-value ships in ocean traffic containing many ships of low value. This group notes that, under North Atlantic combat and weather conditions, attacks on merchant ships would be likely to result in little more than random success at destroying ships loaded with military cargoes instead of ships loaded with civilian industrial or other goods. The second group judges that the Soviets probably would have clandestine reporting, including detailed information on cargoes and ship departure times, as well as locating data from technical collection, including radar and ELINT ocean reconnaissance satellites and long-range HF/DF. According to this view, the combination of these assets would likely provide the intelligence necessary to direct attacks on the more valuable convoys and—with greater difficulty—individual ships.

All agree that, in a conventional war, the Soviets could attempt to disrupt port operations in Western Europe by a bombing offensive. The large and repetitive bombing attacks necessary for such an offensive would reduce the availability of aircraft for other missions. Most bombers would be required for the battle for air superiority and the destruction of NATO nuclear delivery systems. Thus the Pact would probably commit few bombers against port facilities early in a war. If the Pact achieved air superiority in Western Europe, and if a large part of its bomber force remained, a systematic bombing campaign against ports could be initiated. In a theater nuclear war, the Soviets also would interdict shipping by missile and air strikes on ports in Western Europe and, in an intercontinental war, those in North America as well.

Pact intentions for using mines to interdict merchant shipping are not clear. While some Soviet submarines may have a wartime mission to lay mines in restricted waters such as in the approaches to a few key NATO ports, they would not have the capability to mine large areas of the North Atlantic littoral densely and still perform other missions. Soviet surface ships and aircraft would be unable to lay and replenish minefields effectively in areas of NATO air superiority.



### Tactical Nuclear Forces

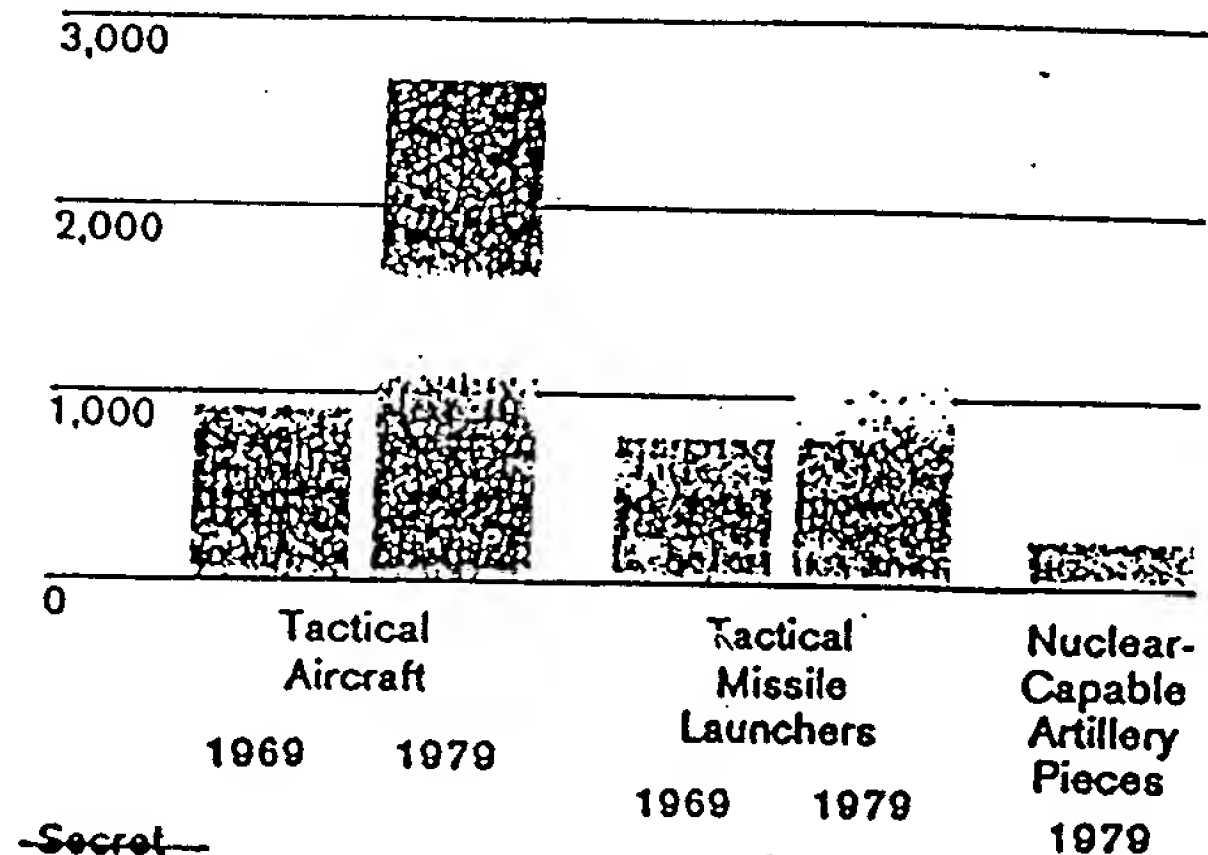
80. Since the late 1960s the tactical nuclear forces especially have experienced important changes in both size and capabilities. (See figure 13.) These changes have included:

- Significant increases in the inventory of tactical nuclear delivery systems in Europe. The expansion has already included about a one-third increase in the number of tactical surface-to-surface missile launchers and a tripling of nuclear delivery aircraft in Central Europe since 1970.
- Increases in the number of tactical nuclear weapons the Soviets plan to use in Central Europe. Nuclear weapons allocations [ ] critical Central Front have tripled.
- Increases in the warhead yields of tactical surface-to-surface missiles. The motivation for the larger yields is unclear, but the Soviets may perceive a requirement for greater areas of destruction to compensate for the relatively poor accuracy of their current missile systems and the lack of timely, accurate reconnaissance data on small, mobile targets.
- Development and deployment of a new generation of tactical nuclear delivery systems with characteristics superior to those of their predecessors. Newer models of Soviet tactical aircraft have greatly improved range and payload capabilities, and more effective tactical surface-to-surface missiles are being deployed.

81. The Soviets have a variety of tactical nuclear delivery systems in their ground and tactical air forces deployed opposite NATO. Nuclear weapons are also carried by many of the Soviet Navy's general purpose ships, submarines, and aircraft. The Soviets have given their East European allies reason to believe that they will be provided nuclear weapons in wartime. The NSWP national commands, particularly the Polish and Czechoslovak commands, evidently train and plan for the eventuality that they will receive nuclear warheads in wartime. [ ]

[ ] In addition, we have information that NSWP war plans may include procedures for the transfer of Soviet nuclear warheads to NSWP missile units. Thus, while we have no direct evidence regarding Soviet intentions, we judge that NSWP

Warsaw Pact Tactical Nuclear Forces Opposite NATO, 1969 and 1979 Figure 13



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tactical aircraft and missiles, as shown in table 3, are likely to be used for nuclear operations in Europe.

82. *Tactical Aircraft.* Numerically, the most important nuclear delivery systems in Eastern Europe are Soviet tactical aircraft. Virtually all Soviet fighter-bomber units in Eastern Europe conduct training and exercise activities which indicate a mission of delivering nuclear bombs. As of 1975, however, only about one-third of the pilots in these Soviet units were qualified by Soviet standards to drop nuclear bombs. We expect that the number of Soviet tactical air units in the USSR which have nuclear missions will increase as the Soviets continue to reequip units with new, nuclear-capable aircraft. The role of Frontal Aviation for delivering tactical nuclear weapons is expanding. [ ]

83. *Tactical Missiles.* Ground force nuclear delivery systems consist mainly of the FROG, Scud, and Scaleboard missiles. The Soviets have 31 FROG battalions with some 124 launchers and 11 Scud brigades

with 150 launchers in Eastern Europe. They have another 65 FROG battalions (260 launchers) and 20 Scud brigades (240 launchers) in their military districts opposite NATO. The Scud has a range of about 300 km and the FROG about 70 km. No Scaleboard launchers (900-km range) are believed to be located in Eastern Europe, but we estimate that six Scaleboard units with 72 launchers are part of the forces in the USSR earmarked for use against NATO. NSWP forces have 310 FROG and Scud launchers.

84. The Soviets are improving the quality of their tactical ballistic missile forces. The SS-21, a new missile (range 120 to 130 km) roughly comparable to the US Lance, is now with at least one division in the western USSR. It offers major improvements in range and accuracy over the FROG, which it is replacing.<sup>17</sup> The SS-21 evidently has a cluster-munition warhead in addition to the standard nuclear, chemical, and conventional high-explosive warheads. A cluster-munition warhead would significantly improve the SS-21's utility during conventional warfare against soft targets such as personnel and equipment in the open or NATO air defense and electronics installations. The SS-22, a replacement missile for the Scaleboard, became operational last year and probably has already been issued to some Scaleboard units in the USSR. It is similar to the Scaleboard missile in range capability, but probably has improved accuracy and warheads.

85. *Nuclear Artillery.* The Soviets have 250 to 300 nuclear-capable artillery pieces in their forces in the western USSR. Nuclear-capable 203-mm self-propelled gun howitzers and 240-mm self-propelled mortars have been identified in two heavy artillery units there. Five other heavy artillery units there are equipped with obsolete 203-mm and 240-mm weapons. No Soviet heavy artillery units have been identified outside the USSR. A few exercises in East Germany, however, have had notional allocation of 203-mm nuclear rounds yielding 2 and 5 kt and 240-mm rounds with yields of 5 kt. These exercises suggest that nuclear artillery units may be introduced into Soviet forces in East Germany eventually. There

<sup>17</sup> The accuracy of the SS-21 is estimated as a circular error probable (CEP) of 200 to 300 meters at two-thirds the maximum range of 120 to 130 kilometers. This is a significant increase in accuracy over the FROG-7, with a CEP of 400 meters at two-thirds the maximum range of 70 kilometers. CEP is a conventional index of accuracy defined as the radius of the circle centered on the intended target within which there is a 50-percent probability that an arriving missile warhead will fall.

is no reliable evidence that the Soviets have nuclear rounds for their 152-mm artillery pieces—the largest now in the forces in Central Europe.

86. *Naval Forces.* All fleets in the Soviet Navy are also equipped with nuclear-capable weapon systems for use in theater warfare. Virtually all of the USSR's operational submarines carry at least two nuclear torpedoes, and at least half of the missiles aboard Soviet cruise-missile submarines are equipped with nuclear warheads. This loading reflects the Soviet belief that, although war could begin conventionally in Europe, it would be fought under constant threat of escalation to the use of nuclear weapons. For example, the theater-dedicated submarines in the Northern Fleet, loaded with their normal complement of conventional and nuclear weapons, alone would carry collectively about 400 tactical nuclear warheads.

87. *Soviet Nuclear Weapons Storage Sites in Eastern Europe.* There are 23 Soviet storage sites in Eastern Europe at least some of which almost certainly contain nuclear weapons. Eleven of them are located at Soviet tactical airfields, and 12 are isolated installations for the storage of warheads for tactical missiles and rockets. (See figure 14.) We do not believe that the NSWP countries operate or control any of the nuclear storage sites in Eastern Europe.

88. Depending on the type stored and storage practice, the storage sites in Eastern Europe could hold a total of 370 to 1,070 tactical nuclear bombs, and 1,700 to 2,900 FROG and Scud warheads. Missile warhead storage capacity in Central Europe appears adequate, provided the higher estimates of capacity are correct, but bomb storage capacity appears to be insufficient to satisfy the requirements for tactical nuclear operations [ The Soviets are estimated to have storage capacity for only 200 to 505 nuclear bombs in East Germany, 70 to 185 in Poland, and 30 to 95 in Czechoslovakia. They probably plan to move additional bombs and warheads into the forward area from the numerous tactical nuclear weapons storage sites in the western USSR before or during hostilities. We have identified bunkers at 12 Soviet tactical airfields in Eastern Europe which may be intended for nuclear bomb storage during a crisis or in wartime. Although these facilities do not appear to be active in peacetime, they probably could be readied within hours to receive nuclear bombs transferred from the USSR.

Soviet Nuclear Storage Sites in Eastern Europe

Figure 14



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#### Soviet Peripheral Strike Forces <sup>14</sup>

89. Elements of all the Soviet strategic attack forces—Strategic Rocket Forces (SRF), Long Range Aviation (LRA), and the Soviet Navy—have the mission of carrying out nuclear strikes against NATO targets. These include 490 to 508 medium- and intermediate-range ballistic missiles (SS-4 MRBMs and SS-5 and SS-20 IRBMs), 525 LRA bombers (Badger, Blinder, and Backfire), and 11 ballistic missile submarines (G-class and H-class). Only a relatively small portion of Soviet ICBMs and modern ballistic missile submarines is likely to be used to strike targets in NATO Europe, and the 150 strike-configured Bear and Bison bombers in LRA are intended mainly for intercontinental missions.

90. For strategic forces the most significant developments have been the deployment of the Backfire bomber and the SS-20 intermediate-range ballistic missile. The Backfire is well suited for the peripheral strike mission and greatly improves the payload and penetration capabilities of Soviet bomber forces targeted against NATO. The mobile SS-20 force, when fully deployed, will have greater survivability and destructive power than the present peripheral missile force. We expect that eventually the SS-20 will replace the Soviets' older SS-4 and SS-5 peripheral missiles and that, by the early 1980s, it will be the mainstay of the land-based ballistic missile force for peripheral use.

#### Forces for Chemical Warfare

91. The Soviets have had a broad-based R&D program for chemical warfare (CW) since World War II, and they remain in the forefront in CW technical knowledge. Pact forces generally are well equipped and trained to operate in a CBR environment. Pact ground forces have a variety of systems capable of delivering chemical agents which would enable them to cover large areas of the combat zone from the forward edge of the battle area to at least 300 kilometers beyond. Airdropped munitions provide the potential for large-scale strikes against NATO, especially against enemy nuclear delivery targets. Naval weapon systems also provide a theater chemical warfare capability against ships at sea, points of embarkation, forward storage sites, and amphibious landing operations.

<sup>14</sup> A detailed description of the deployment patterns and technical characteristics of these systems is contained in NIE 11-6-78, *Soviet Strategic Forces for Peripheral Attack*, and in volume II, chapters II, IV, and V of this Estimate.

92. No facilities in Warsaw Pact countries have been positively identified as currently producing toxic CW agents in militarily significant quantities, although several in the USSR and in some NSWP countries have historical association with CW agent production and may still be engaged in this activity. The nature of CW agent production is such that positive identification of production facilities within an industrial chemical complex is virtually impossible without knowledgeable human sources.

93. There is no question that the Soviets and some East Europeans either have produced or are capable of producing toxic agents, inasmuch as their chemical plants are already handling most of the raw materials required to produce these agents. We believe that the Soviet chemical industry can easily handle production sufficient to maintain current Soviet reserves of bulk chemical agents, plus whatever additional quantities are required to replace agents consumed by training and deterioration. The quantities involved are relatively small, and large-scale production of agents would not be necessary.

94. At the present time there are 10 major installations in the USSR believed to be associated with the storage of CW toxic agents, filled munitions, or both. A lack of evidence precludes determining the size or composition of the Soviet CW agent stockpile, however. Because we know that the Soviets have developed a range of toxic agents and delivery systems, and tactical doctrine for their use, and because we have fragmentary evidence on some field depots for chemical storage, we do not doubt that they have operational stocks, including some in Eastern Europe. We believe these include nerve agents such as GB (sarin) and GD (thickened and unthickened soman), as well as older types of agents such as hydrogen cyanide, mustard, and the mustard-lewisite mixture. Research relating to incapacitating agents, such as the hallucinogen BZ and agents closely related to it, is also continuing, but there is no evidence that any agents of this type are stockpiled.

#### Forces for Electronic Warfare

95. In the Soviet concept, electronic warfare is a fundamental part of overall planning and must be integrated into all phases of combat operations. In the early 1970s, a radioelectronic combat (REC) department was created within the Staff of the Combined Armed Forces of the Pact to promote electronic



warfare and to ensure standardization of equipment and procedures among the Pact armies. REC departments were also created within the Soviet General Staff and in some of the military districts opposite NATO. By the mid-1970s, REC staffs patterned after the Soviet model had also been established in the East German, Czechoslovak, Polish, and Hungarian forces.

96. Over the past decade the Soviets have initiated a broad series of programs to modernize and expand their already significant offensive and defensive capabilities for REC in the European theater. Some of these programs are still at an early stage of development, however, and will not be completed before the mid-to-late 1980s. In addition, the Pact is seeking to improve the organization, procedures, and performance of REC units, and the abilities of Pact ground, air, and naval forces to operate under jamming conditions.

97. Pact ground force elements for REC include SIGINT collection units and active jamming units. SIGINT units are found at division, army, and front level, whereas jamming units are found only at the front level but may be assigned to army commands to support specific operations. In the Soviet air forces opposite NATO, transport and combat aircraft have been specially equipped to conduct electronic warfare missions. The Soviet Navy has deployed electronic collection and jamming equipment on combatants, intelligence collection ships, and naval aircraft.

98. We are unable to determine the extent to which the equipment of Pact jamming units meet Soviet standards, but the Soviets have stated that production of newer systems is lagging. The bulk of the jamming equipment currently deployed represents technology of the 1950s and the early 1960s. More modern

equipment first appeared in the early 1970s, but representative models of this more advanced equipment are only now appearing in the Pact, primarily in Soviet units. Several types of new equipment will not be deployed fully until the mid-1980s. While the Soviets do not have sufficient jamming equipment to support electronic warfare on the scale called for in their doctrine, even selective use could be a problem for NATO.

#### Warsaw Pact Logistics

99. Warsaw Pact exercises, classified writings, and other evidence indicate that the Pact is planning logistic support for a series of short campaigns of high intensity, involving the rapid achievement of a breakthrough and advance to strategic objectives in the NATO rear. Warsaw Pact logistic planning factors are evidently based on Soviet World War II experience, and updated in accordance with changes in tactics, force structure, and equipment. Our information in this regard dates from the early 1970s. We have no way to judge the soundness of these Pact planning factors in a future war as they relate to the attrition rates for equipment and the consumption rates of expendables such as ammunition. [

] Our estimates of the levels of Pact ground and air ammunition and POL supplies are based on calculations of the capacities of identified storage facilities, adjusted to take loading factors into account. These calculations and a discussion of Soviet naval logistic capabilities are contained in volume II, chapter II, of this Estimate.<sup>10</sup>

<sup>10</sup> Volume II also outlines differing agency views on the Pact's wartime personnel replacement practices.

## PART C

### WARSAW PACT STRATEGY FOR INITIAL CONVENTIONAL OPERATIONS AGAINST NATO

100. In this part of volume I we summarize our understanding of Warsaw Pact command and control and of likely Pact objectives and operations during the initial conventional phases of a war with NATO. Volume II of the Estimate contains additional, supporting intelligence information and judgments, and our estimates of the likely allocation of Pact forces to campaigns in Central Europe, against NATO's flanks, and in the North Atlantic.

101. We do not have access to the Pact's war plans, but we can deduce their general nature, at least for the opening phases of a war, from military exercises, from Pact writings on military tactics and strategy, and from the current disposition of Pact forces. The USSR has developed contingency plans for military operations on all Pact land frontiers. Our information on Soviet concepts for military operations is best for offensive operations that would be directed against NATO, especially in Central Europe. The Soviets clearly expect Central Europe to be the decisive arena in a war with NATO and assign it the highest priority in the allocation of military manpower and equipment.

102. We have considered the question of whether the Soviets could rely on their Warsaw Pact allies to participate willingly and effectively in hostilities against NATO and have concluded that no categorical answer is possible. The extent of reliability in non-Soviet Warsaw Pact countries would depend chiefly upon the circumstances under which NSWP forces became engaged in war with NATO. The period of tension before hostilities would allow the Soviets to manipulate popular attitudes and political leaders. In addition, the Pact's mobilization would be set in motion and its momentum would carry military preparations forward. Refusal on the part of an NSWP country to participate at this stage could be dealt with by force. In sum, the East Europeans would feel they had little choice but to fight on behalf of the Pact.

#### Warsaw Pact Command and Control

103. The Warsaw Pact's success in achieving its wartime objectives would depend on its ability to control and coordinate multinational, joint-service operations of great complexity. In peacetime, the Warsaw Pact headquarters does not control the armed forces of member states. Each state controls its armed forces through its national command authority, which is made up of key party, government, and military leaders. Operational control of national forces is exercised by each country's general staff. Overall Pact defense planning is coordinated among Pact members, but the process is clearly Soviet dominated. Establishment of the Pact wartime command system is not automatic. It entails authoritative release of forces from national control and their subordination to the Pact's high command. Political and military consultations between senior Pact leaders would be necessary to coordinate preparations for war.

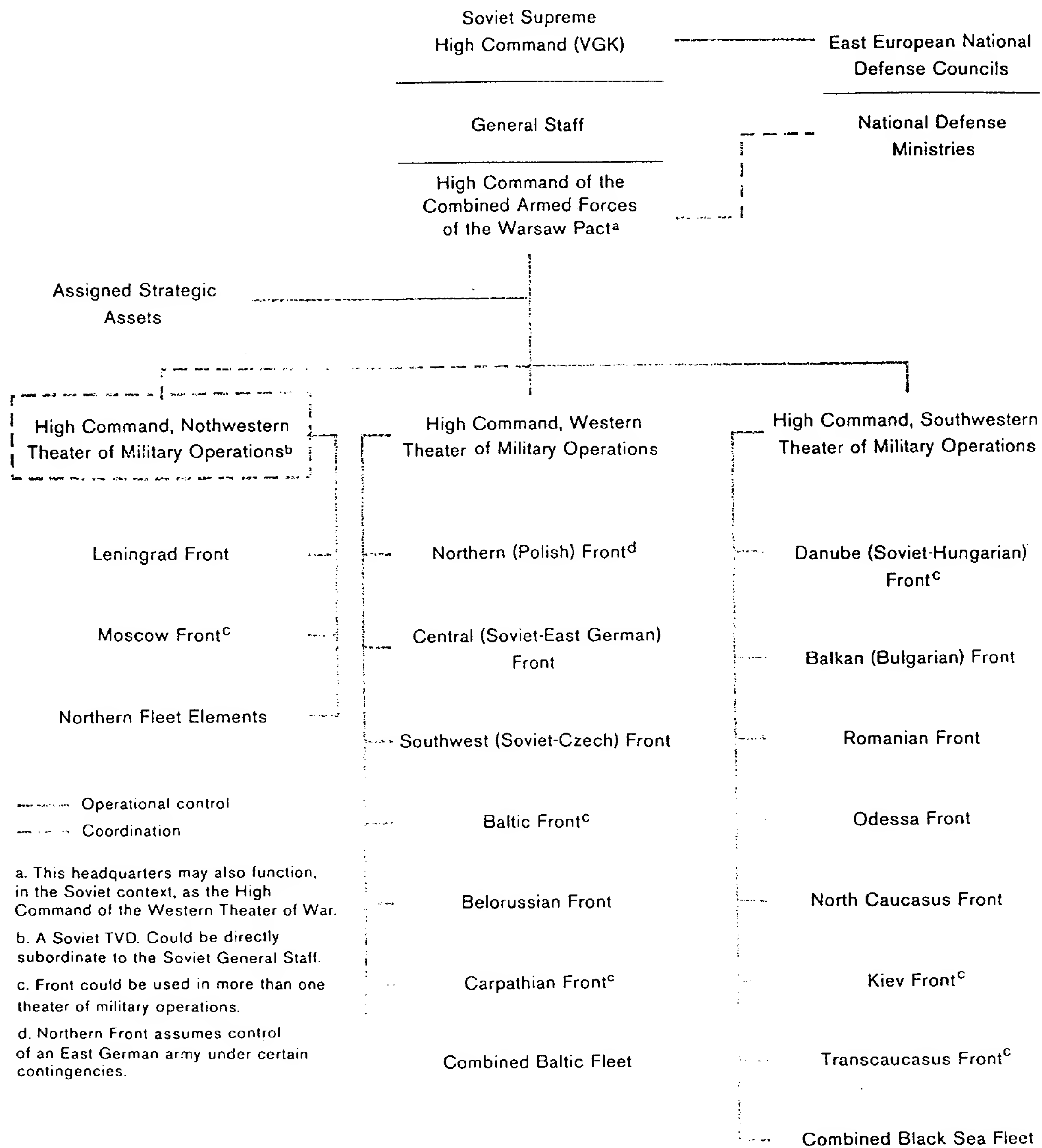
104. The ultimate authority for the direction of the Soviet military rests with the Politburo. The wartime role of the Politburo is unclear, but its involvement as a group would probably be limited to only the most crucial decisions. A subset of the Politburo, the Defense Council, establishes military policy and makes fundamental decisions regarding the employment of military forces. We believe that the Defense Council would form the nucleus of a largely civilian national defense command organ. This body would consider all defense issues and provide broad guidelines for the conduct of military operations.

105. Brezhnev, predestinated as Supreme Commander in Chief, would lead a Supreme High Command (*Verkhnoye Glavokomandovaniye—VGK*) drawn from elements of the Ministry of Defense. (See figure 15.) This command would constitute the military-strategic leadership over all Pact military operations against NATO. The VGK probably includes at least the three first deputy ministers of defense and

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## Primary Option for Operational Control of Warsaw Pact Forces

Figure 15



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the commanders in chief of the five components of the Soviet armed forces. One of the Soviet first deputy ministers of defense (currently, Marshal Kulikov) is the commander in chief of the combined armed forces of the Warsaw Pact member states. The Soviet General Staff is the executive agent of the VGK and, as such, is the focal point for operational control of Soviet armed forces and those of the Pact in wartime.

106. We believe that should a war occur between the Warsaw Pact and NATO, theater-level commands would be established and exercise direct operational control over fronts and fleets and at least some degree of control over those strategic assets allocated to support theater operations. Unlike NATO, the Warsaw Pact does not have theater headquarters in being in peacetime. Hardened command posts have been constructed for at least some Pact wartime headquarters, however.

107. Arrangements for exercising control of Pact forces within what the Soviets call the Western (or European) Theater of War have been evolving over the last few years. Although ultimate control of all Pact operations continues to be the VGK and the Soviet General Staff, we now have evidence that indicates the commander in chief of the combined armed forces of the Warsaw Pact would control all Pact forces in this theater in wartime. We are less certain of how he would do this—whether the High Command of the Warsaw Pact would become a component of the Soviet High Command with the responsibility for operational control over forces within the Western Theater or whether it would form a separate command entity.

108. In considering a future war with NATO, Soviet strategists envision widespread combat operations encompassing all of Europe and extending into the North Atlantic. Accordingly, they plan to divide the Western Theater of War into three land Theaters of Military Operations (TVDs) in which they expect Pact and NATO forces to come in conflict. (See figure 16.)

— The Northwestern TVD. Based on the Soviet Leningrad Military District, this theater would encompass the Scandinavian Peninsula and immediately adjacent waters.

— The Western TVD. This theater would include, on the Pact side, Soviet and East European forces in East Germany, Poland, and Czechoslovakia

and Soviet forces in the western USSR and, on the NATO side, West Germany, the Benelux nations, Denmark, and possibly France and northern Spain. Pact operations in the western Baltic Sea also would be included in this TVD.

— The Southwestern TVD. Soviet planners envision military operations against Greece and Turkey and probably northern Italy and Austria. This theater would also include the Black and Mediterranean Seas.

109. The Soviets also expect major naval operations against NATO in the North Atlantic to occur in conjunction with a conflict in Europe. The equivalent of the TVD in Soviet maritime strategy is the MTVD, the Maritime Theater of Military Operations. We are less certain about the approximate boundaries of MTVDs than we are about those of TVDs. Operations, exercises, and documentary evidence suggest that the Soviets would regard an area in the Norwegian Sea north of the Greenland-Iceland-United Kingdom (G-I-UK) gap as an MTVD.

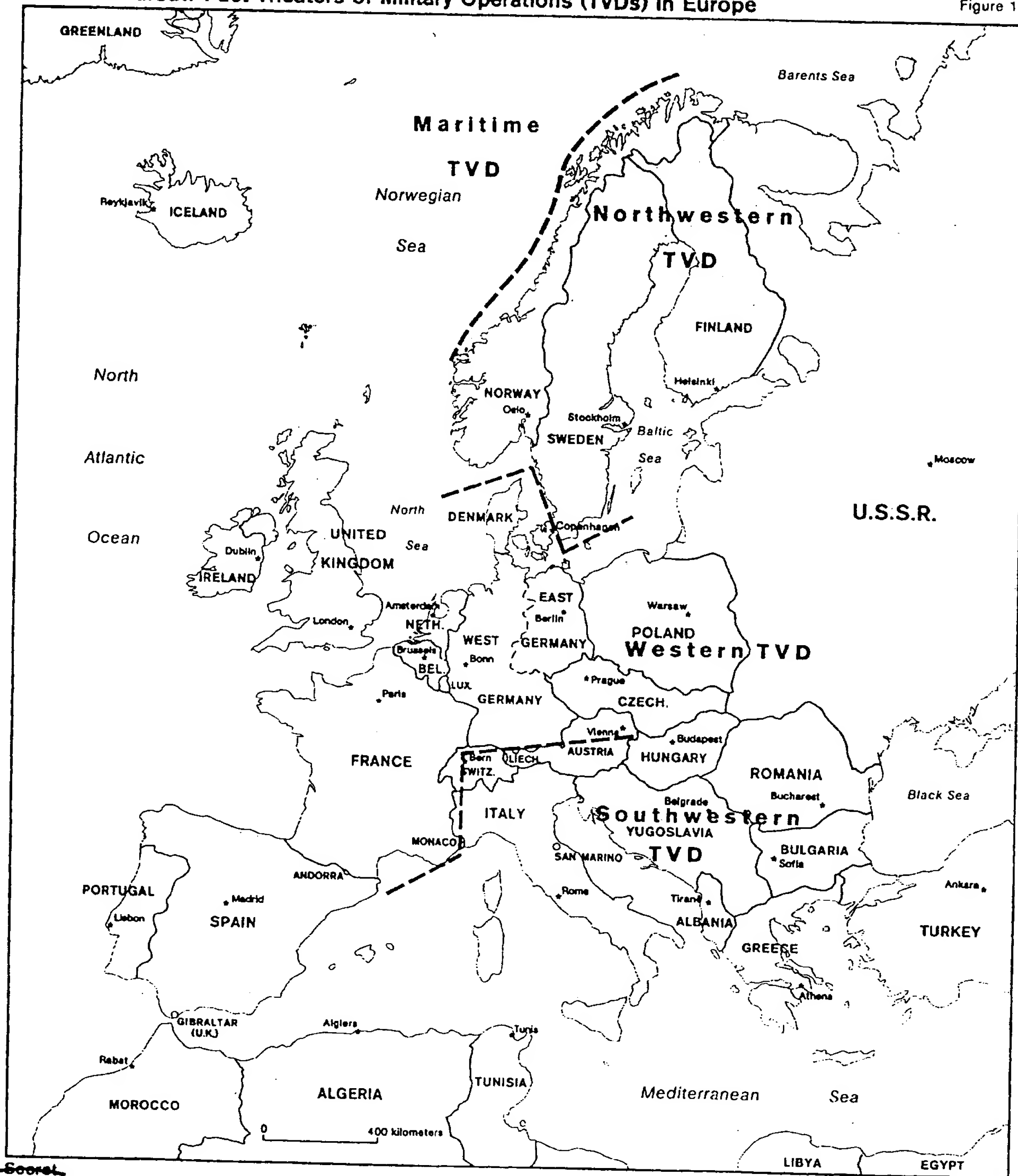
110. The Pact's commander in chief would control the Western and Southwestern TVD headquarters—often called High Commands by the Soviets—which would in turn exercise direct control over assigned fronts, flotillas, separate armies, and those strategic forces allocated to support TVD operations. We are unsure whether a TVD command would be formed to control operations against NATO's northern flank or, if established, whether it would be under the control of the Pact's commander in chief or directly subordinate to the Soviet General Staff. In any case, Soviet members of the Pact's military hierarchy have proposed that the control organs for TVD High Commands—commanders, staffs, communications, and command centers—be established in peacetime.

111. Regardless of what echelons of command are created to integrate wartime theater-level and strategic operations, the senior tactical command would be the front. Although not directly comparable to any Western organization, the front would be similar to the NATO army group in size, level of command, and function. A front would usually consist of three to five ground armies, each including three to five tank or motorized rifle divisions, and an air army of as many as several hundred tactical aircraft. A front operating in a maritime sector might also control any naval elements which were chiefly devoted to that front's mission. The ground forces of the front would also

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Possible Warsaw Pact Theaters of Military Operations (TVDs) in Europe

Figure 16



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include numerous separate combat and combat-support elements such as tank, artillery, missile, and air defense units. Large service-support elements would provide the front with transport, maintenance, engineering, supply, and medical support. The Soviet front in East Germany could total more than 500,000 men after full mobilization; a more typical front would have some 300,000 to 400,000 men.

112. In wartime, the Pact would have two combined fleets opposite NATO: the Baltic and Black Sea Combined Fleets, both under Soviet command. The Combined Baltic Fleet would consist of elements from the Soviet Baltic Fleet and from the Polish and East German Navies. The Combined Black Sea Fleet would be formed from the Soviet Black Sea Fleet and the Romanian and Bulgarian Navies. The Soviet Northern Fleet and the Soviet 5th Squadron (*Eskadra*) in the Mediterranean would support Pact operations under the control of the Main Naval Staff in Moscow, although in some cases control might be exercised by continental theater-level commands.

113. We believe that the Pact's command and control system is adequate to alert forces and control mobilization and to control combat operations. In a rapidly developing crisis, deploying and activating the Pact's entire wartime command and control system would require about a week. The system for theater operations has important strengths:

- Soviet dominance of the Pact allows the USSR to control almost all aspects of Pact operations.
- The Pact has a standardized command and control doctrine.
- The Pact has a significant degree of flexibility in the resubordination of ground armies and divisions from one command to another, including resubordination of these units from one nation to the command of another.
- Each echelon of command has the capability to control both its immediate and second-echelon subordinates.
- The Pact command and control system is characterized by redundancy, hardening, mobility, and dispersal. As such, the system provides a high degree of survivability.
- Pact forces have a high degree of communications security, both in operating practices and in security devices.

- The Pact is demonstrating an increasing degree of interoperability in communications equipment.

- Pact mobile signal units have backup communications equipment to replace that damaged or destroyed.

114. Our judgments regarding these strengths are tempered by information from Soviet classified writings—as well as from defectors and emigres—which illuminates Pact views of some problem areas within elements of the system. Problems noted include instances of poor-quality staff and communications personnel; low Russian-language proficiency on the part of some Pact staffs; shortcomings in quantity, capacity, interoperability, maintainability, and security of communications equipment; and failure to fulfill doctrinal requirements for camouflage and distance between communications centers and command posts.

115. Because command, control, and communications are essential in modern warfare, any serious degradation of these functions would have an adverse impact on the effectiveness of combat operations. Systematic analyses are under way to determine the degree of susceptibility of the Pact command and control system to destruction and degradation. Although detailed results are not available, we can make several important judgments about Pact vulnerability.

- Because of Pact efforts at hardening and redundancy, serious degradation of Pact command and control functions probably would not occur as a result of collateral damage from weapons directed at other targets.
- Although the destruction of all major command and control targets would require hundreds of weapons, selective and repeated attacks on important facilities could reduce Pact combat effectiveness and possibly stall current or future combat operations.
- The effect of destroying different command posts would vary according to the echelon attacked. For example, destruction of the front's main or rear command posts, where most planning occurs, may not have as great an impact on current operations as on subsequent operations. Destruction of army and division forward command posts or regimental command posts, however, would likely have an immediate disruptive impact on operations.

## The Initial Campaign in the Western Theater of Military Operations

### The Ground Offensive

116. Soviet military strategy calls for a massive and rapid ground offensive into NATO territory in Central Europe to defeat NATO forces, disrupt mobilization, and seize or destroy ports and airfields to prevent reinforcement. Because this strategy envisions a highly fluid battlefield and high rates of advance, Pact planners hope to overrun, penetrate, or bypass NATO forward defenses rapidly to prevent the Western Alliance from strengthening its defenses and using the time gained for mobilization and reinforcement. They recognize that this strategy would be complicated by a period of political crisis and tension that almost certainly would precede a war and provide impetus to NATO preparations.

117. To achieve the force ratios deemed necessary to accomplish its objectives, the Pact has evolved mobilization and attack concepts that are intended to maximize initial combat power, on the assumption that a war in Europe would be short, and therefore decided largely by forces in being or quickly available. Accordingly, the Soviets plan against the contingency that Pact forces based in Central Europe, about half of them East European, might be required to initiate a Pact offensive campaign and, bypassing strong resistance, carry the campaign well into NATO territory before reinforcements would arrive from the western USSR.

118. Pact planning for the Western Theater of Military Operations evidently envisions initial offensives along axes of advance in three distinct areas—central, northern, and southwestern. (See figure 17.) The Pact probably would seek to organize its initial attack forces in this TVD into three fronts which would correspond to these areas of responsibility. In NIE 4-1-78 (*Warsaw Pact Concepts and Capabilities for Going to War in Europe: Implications for NATO Warning of War*), we evaluated various attack options which the Warsaw Pact might consider for launching offensives in the Western TVD, should it decide to start a war with NATO. These options defined alternative ways in which the Pact might organize the 58 Soviet and NSWP divisions in Central Europe and the 29 Soviet divisions in the three western military districts of the USSR. A summary of the conclusions of that evaluation, and a discussion of Pact concepts for breaking through NATO's defenses and subsequent ground operations in Central Europe, are contained in volume II of this Estimate.

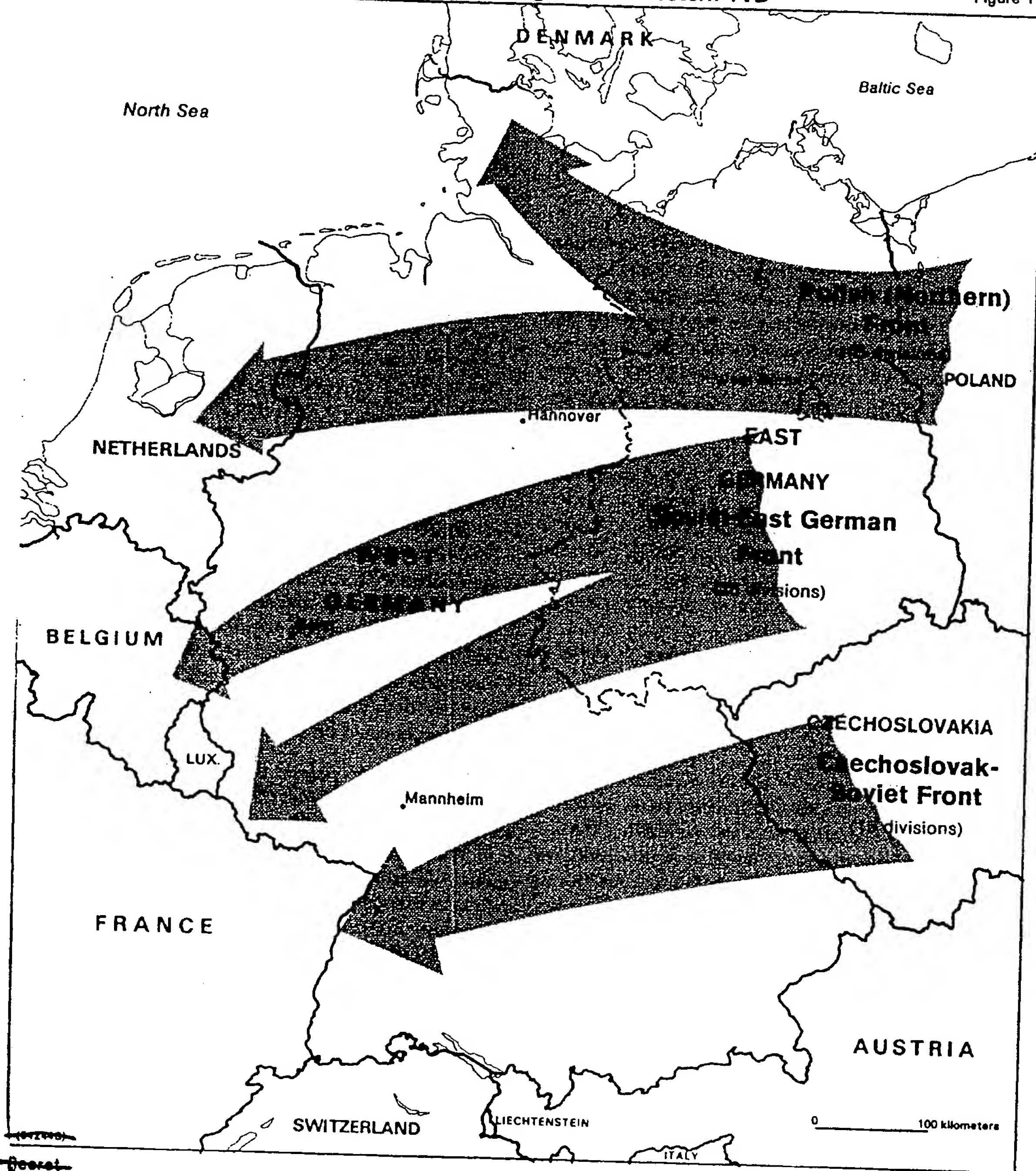
119. While the Soviets regard most of their allies with habitual distrust—and at one time or another most of them have merited distrust by rebellion or political instability—the Soviets have nevertheless entrusted their allies to carry out wartime functions potentially critical to the Pact's prospects for success in a conflict with NATO. The East Europeans provide more than half the Pact combat divisions in Central Europe, and the Soviets count on attacks by Polish units in the north and Czechoslovak units in the south to tie down large NATO forces and permit the concentration of Soviet and East German forces in the critical central sector. The major lines of communication from the USSR run through Poland, East Germany, and Czechoslovakia, and nationals of these countries are chiefly responsible for operating and maintaining them. Non-Soviet Warsaw Pact forces are intended to provide forward air defense for the western USSR and to protect the Pact's logistic and rear area support. All of this suggests that the Soviets have reconciled themselves to whatever reliability problems they envision and have made a calculated decision to rely on effective NSWP performance in the contingencies for which they plan military operations.

120. *Concepts for the Offensive.* The tactics employed by the Pact to overcome NATO defenses will be based on its perceptions of how strong those defenses are. The Pact would prefer to employ forces on multiple axes, moving in tactical march columns to



Illustrative Warsaw Pact Ground Force Campaign in the Western TVD

Figure 17



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penetrate defense positions through gaps, weak points, and open flanks, relying heavily on speed and maneuver. In areas where the Pact believed that it must penetrate strong, continuous NATO defenses, it would mount breakthrough operations on each principle axis of advance. Depending on the importance of the axis of advance to the overall theater offensive plan and the strength of the defense, a breakthrough attempt might involve the major forces of either a front or an army.

121. *The Dilemma of the Nuclear Transition.* Soviet military writings confirm that Warsaw Pact planners see a dilemma in the prospect that a war with NATO could be nonnuclear in the beginning and escalate rapidly to large-scale nuclear war. On the one hand, if faced with strong, continuous NATO defenses, the Pact planners would have to mass large concentrations of forces in places of their choosing to attempt breakthroughs. On the other hand, they fear that NATO might take advantage of their vulnerability while massing for an attack and launch a nuclear strike. The dilemma has led the Soviets to plan a large-scale nonnuclear air attack on NATO's air and nuclear facilities—to which they would commit the bulk of the Warsaw Pact tactical air force and much of the Soviet LRA bomber force—in an attempt to eliminate most of NATO's theater nuclear potential at the very outset of hostilities.

122. The Pact's plans to reduce the vulnerability of its attacking ground forces during breakthrough efforts call for dispersed units to converge rapidly near the point of contact with NATO forces, attack, achieve a breakthrough, and then disperse, continuing the advance or exploitation along a number of different axes. This tactic is designed to minimize the time during which Pact forces would be exposed to nuclear strikes. It is also intended to complicate NATO's use of nuclear weapons by having the Pact units come together for the assault at a point as close as possible to NATO lines so that NATO cannot effectively employ nuclear weapons without endangering its own troops. The Soviets recognize, however, that the breakthrough operation is a complex and risky maneuver. This is apparent from the considerable attention Soviet planners continue to devote to the coordination and communications problems associated with moving large attacking forces covertly, committing them from the march, dispersing them, and providing replacements and reinforcements for them.

123. The Soviets place considerable stress on efforts to anticipate NATO's intention to use nuclear weapons on a large scale in time to launch a Pact preemptive attack. To this end, they expect to keep their own nuclear delivery systems in a high state of readiness and to conduct a vigorous reconnaissance and intelligence collecting campaign against NATO's nuclear units and facilities, as well as its communications networks, to detect signs which might presage the imminent use of nuclear weapons.

124. *Tanks Versus Antitank Weapons.* Because the type of offensive the Pact planners envision in Central Europe is highly dependent on the mobility and shock effect provided by large numbers of tanks, the Pact is concerned that the proliferation in NATO forces of improved antitank weapons has greatly increased NATO's capability to stop Pact armor. As a result, the Pact has modified its tactics and initiated several force improvement programs in an effort to cope with NATO's antitank threat.

125. Pact doctrine has traditionally stressed the role of artillery on the conventional battlefield, and the Pact now has in Central Europe more than twice as many artillery pieces as NATO. Pact artillery doctrine stresses preplanned, massed barrages, which provide the high volume of fire required in nonnuclear breakthrough operations against relatively static defenses, especially against forward antitank defenses. The large number of multiple rocket launchers deployed with Pact forces could be particularly effective in this role.

126. Work to reduce the vulnerability of tanks to antitank guided missiles (ATGMs) has been under way in the Soviet Union since at least the early 1960s, most of it directed at defeating the high-explosive antitank (HEAT) warheads which virtually all infantry antitank weapons in both NATO and the Warsaw Pact employ. To provide better protection, particularly against HEAT ammunition, the Soviets have incorporated composite or laminated armor arrays in their new T-64 and T-72 tanks. The additional tanks which the Soviets have assigned to their divisions in the past decade may be intended to compensate for the heavier losses that Soviet planners expect to sustain from improved antitank defenses and to enable assaulting units to overwhelm these defenses by sheer numbers. The addition of an independent tank battalion to a motorized rifle division provides the division commander with an additional maneuver force to commit at a critical point in the battle.



127. *Subsequent Operations.* If a major breakthrough were accomplished by the forces of the Soviet-East German Front, the three tank armies of this front probably would launch rapid thrusts—perhaps aided by airborne assaults—in an attempt to secure crossings over the Rhine near Essen, Frankfurt, and similar points, and continue the advance to at least the French border. The Polish Front, upon breaking through initial defenses in its area, would be responsible for advancing both into Denmark and across northern Germany into the Netherlands. The Soviet-Czechoslovak Front would move into southern West Germany, and advance toward crossings over the Rhine south of Mannheim.

128. The roles of the reinforcing fronts from the western USSR would depend on the progress of the initial offensive. [

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#### The Air Offensive in Central Europe

129. Pact planners also consider NATO's tactical air forces in Central Europe a formidable threat to Pact ground, air, and nuclear forces during the initial, conventional phase of war, and one of NATO's principal means for delivering nuclear strikes in Europe. Consequently, they regard the early attainment of air superiority and destruction of much of NATO's tactical nuclear forces to be critical to the Pact's chances for victory in the theater. The Soviets regard air superiority as a condition in which NATO's air and air defense forces would cease to pose a serious threat to the operations of Pact ground, air, and naval forces. The Pact plans to achieve these objectives by conducting a large-scale, theaterwide conventional air offensive during the first several days of hostilities. The Soviets refer to this offensive as the Air Operation. (See figure 18.)

130. The goals and principal characteristics of the Air Operation [

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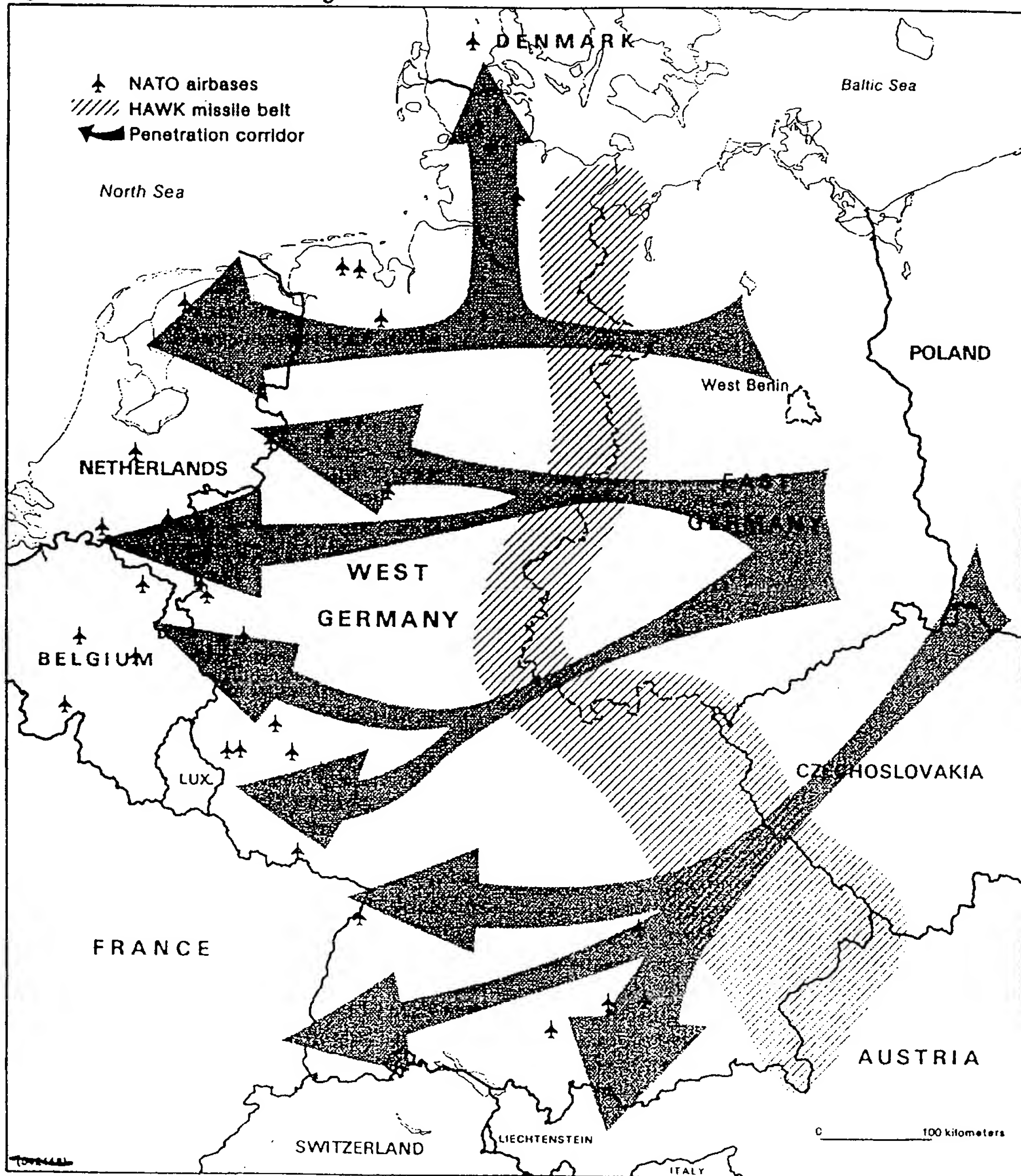
- The Pact would commit most of its tactical aircraft and a large number of its Long Range Aviation bombers to a series of air assaults designed to achieve tactical surprise at the outset of hostilities and lasting for the first two to four days of combat.
- Each assault, consisting of two to three waves of aircraft, would begin with a concerted effort to destroy or suppress air defenses in corridors through which attacking aircraft would proceed to strike airfields, nuclear-weapons-associated facilities, and command, control, and communications facilities.
- LRA bombers would constitute the primary force for attacking airfields. Most tactical air forces would be used to suppress air defenses, especially HAWK missile batteries. They would also be expected to provide fighter cover for attack aircraft, to provide reconnaissance and REC support, and to attack surface-to-surface missile units and some NATO airfields. NSWP national air defense fighters would escort Soviet bombers over Pact territory and provide strategic air defense of their homelands.
- Some fighter-bomber and bomber aircraft would be withheld for use in nuclear operations, and a small number of tactical aircraft would be available for direct support of the ground forces.

131. Pact planners would regard attacks against NATO airfields as the principal way of gaining air superiority. They would intend such attacks to damage runways and other airfield facilities and thus degrade NATO's ability to operate its air forces effectively. In its effort to achieve nuclear superiority, the Pact would probably concentrate its attacks on those bases from which NATO nuclear delivery aircraft would operate.

132. The Pact has approximately 3,000 tactical aircraft, 775 national air defense fighters, and 525 LRA bombers available for use in Central Europe. Pact writings and exercise scenarios lead us to estimate that, of these aircraft, about 350 LRA bombers and about 1,200 to 2,100 tactical aircraft would be made available for use in the Air Operation. The remaining aircraft would be used to defend Pact territory and to provide direct combat support to Pact ground forces.

Illustrative Penetration Corridors for a Warsaw Pact Air Operation  
Against the NATO Central Region

Figure 18



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Some of the remaining aircraft would also be kept in readiness for the transition to nuclear war. The number of aircraft available for the initial assault of an Air Operation would vary according to the extent to which the Pact mobilized and moved additional tactical air units within range of NATO targets.<sup>20</sup>

133. We have no direct evidence of Pact expectations regarding aircraft losses during the Air Operation. We believe, however, that the Pact probably would not measure the success of the Air Operation in these terms. Substantial Pact losses might be viewed as tolerable to Pact planners contemplating a short, decisive conflict, even if the Air Operation managed only to keep NATO's air forces preoccupied with fending for their own survival during the first few days of hostilities. With their attention so diverted, NATO's air forces could have difficulty countering Pact ground forces during the most critical phases of their initial operations—the breakthrough and penetration of NATO's forward defenses. How the Pact would measure the degree to which the Air Operation would contribute to Pact nuclear superiority is less clear. Pact strategists may regard this objective as being subsumed under that of air superiority because they view NATO's air forces as the principal component of NATO's theater nuclear capability.

134. The ability of the Pact's air forces to reduce significantly the effectiveness of NATO's air and theater nuclear forces would be affected by a variety of factors. Chief among them are Pact capabilities to achieve surprise, effectively coordinate the employment of large numbers of aircraft, suppress NATO's air defenses, and destroy aircraft and crater runways and taxiways at NATO's airfields. Other important factors include the proficiency of Pact aircrews and the ability of Pact air forces to perform their primary missions in poor flying weather. Our assessment of these factors is contained in volume II, chapter IV.

135. Some in the Intelligence Community believe that, on balance, a Pact Air Operation would do considerable damage to NATO's air and air defense forces, but probably would not be so effective as to prevent NATO's air forces from being able to deliver

<sup>20</sup> Illustrative deployment options and a discussion of likely Pact preparations for and combat operations during an Air Operation are contained in volume II, chapter IV, of this Estimate.

nuclear weapons on a large scale.<sup>21</sup> This conclusion is based on the evaluation of Pact deficiencies and weaknesses contained in volume II, key points of which are summarized below:

- The Pact is unlikely to achieve strategic surprise because of the extensive preparations that it would feel compelled to make in order to enhance the prospects for success of a general offensive in Central Europe.
- The Pact's ability to orchestrate an Air Operation requiring precisely timed, multiple sorties by Soviet bombers flying out of the USSR and the tactical and national air defense forces of several different nationalities operating from within Eastern Europe is open to question.
- The Pact will have difficulty suppressing NATO's air defenses because the tactical aircraft assigned this responsibility are currently equipped mainly with direct attack weapons—which means that NATO's HAWK surface-to-air-missile sites would have to be visually identified by Pact aircrews before they could be attacked.
- The Pact capability to destroy aircraft protected by shelters and to break up runways is judged to be limited because of the size of the force the Pact apparently intends to commit to this task, and the tactics it apparently intends to employ.
- Pact tactical aircrews generally are not well trained—as measured by US standards—for combat in the hostile environment they would likely encounter in executing the Air Operation.
- Pact tactical aircraft generally are not equipped to navigate at low altitude nor are they able to attack targets in poor weather, so visibilities in excess of several thousand meters would be imperative for the success of the Air Operation.

136. Others believe that no judgment with any useful level of confidence on the effectiveness of an Air Operation is possible at this time.<sup>22</sup> They believe that a conclusion such as expressed above should of

<sup>21</sup> The holders of this view are the Central Intelligence Agency and the Director, Bureau of Intelligence and Research, Department of State.

<sup>22</sup> The holders of this view are the Director, Defense Intelligence Agency, and the Assistant Chief of Staff, Intelligence, Department of the Air Force.

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necessity be based on a rigorous analysis of the factors involved which apply to both NATO and the Pact, and the interaction of the forces of both sides. They observe that no such analysis has been offered to support the conclusion. They further believe that the sensitivity of any such analysis to assumptions which have to be based on meager evidence—Pact weapon allocation and delivery tactics, for example—would make the validity of such an analysis open to question.

#### Naval Operations in the Baltic

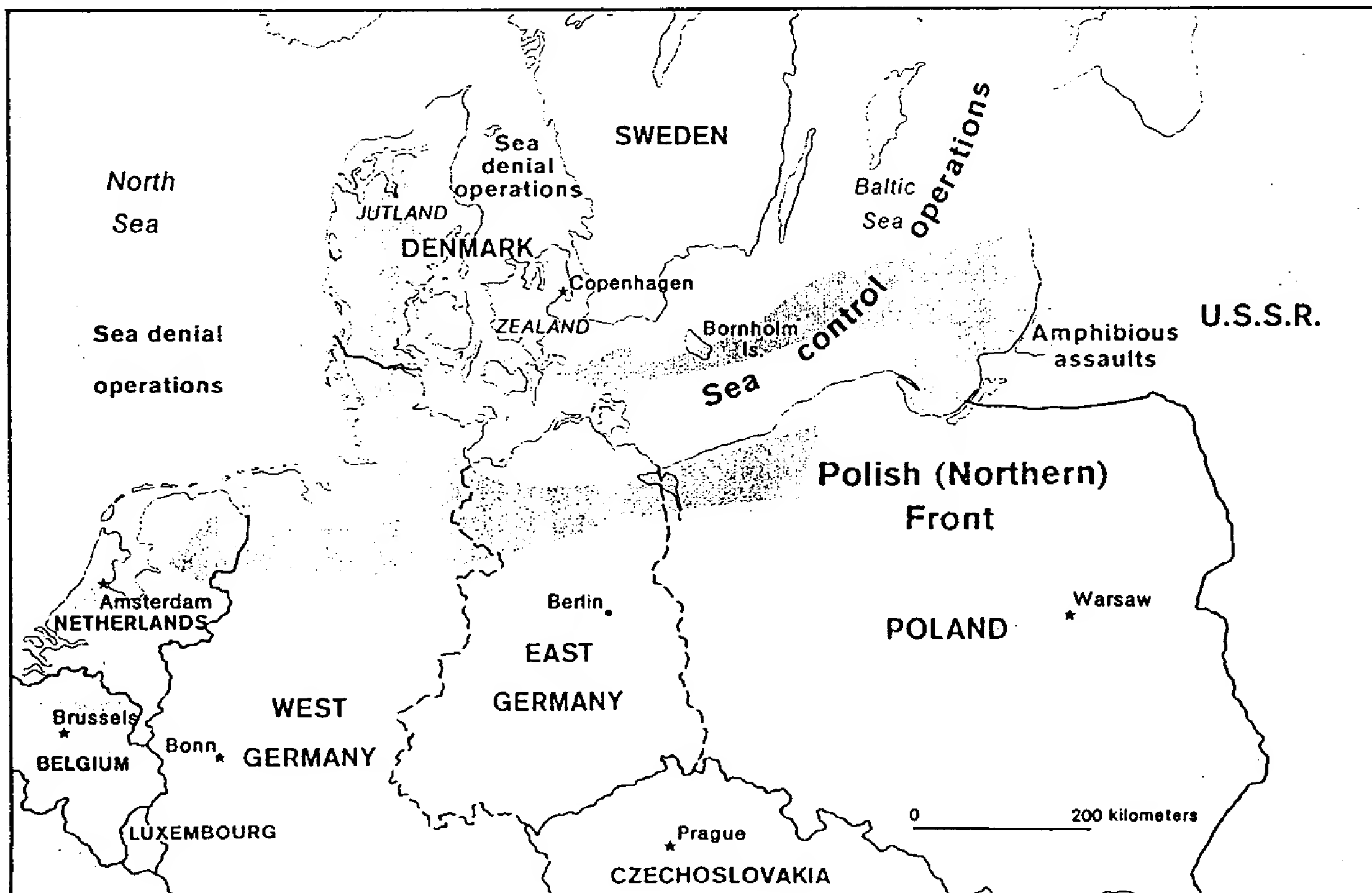
137. Warsaw Pact naval operations in the Baltic would be conducted in the context of the overall campaign in the Western Theater of Military Operations in Central Europe, and would conform with the timing and objectives of the Pact's ground and air forces, in particular those of the Polish, or Northern, Front of that TVD. This front, composed primarily of Polish forces, but with the support of the Combined

Baltic Fleet, would be responsible initially for capturing northern West Germany and Denmark. (See figure 19.)

138. The broad objectives of Pact naval operations would be to gain complete control of the Baltic Sea and access to the North Sea to sever NATO's lines of communication in the North Sea, and deprive NATO of potential launch areas for carrier strikes against Pact air and ground forces in the Central Region. Control of the Baltic Sea would also facilitate subsequent amphibious operations against Denmark and West Germany, act as a defensive buffer for Pact territory, and defend Pact sea lines of communication from NATO attack. The major Pact forces involved would consist of the Soviet Baltic Fleet reinforced by the naval forces of East Germany and Poland, the Soviet Baltic Fleet Air Force, Long Range Aviation, and elements of the Pact's national air defense and tactical air forces.

**Illustrative Warsaw Pact Naval and Amphibious Operations in the Western TVD**

Figure 19



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139. A main objective of the Pact's initial naval operations in the Baltic would be to destroy NATO submarines, fast patrol boats, and mine warfare units because they could interfere with Pact ship movements, especially west of Bornholm Island, and with amphibious operations. Pact planners recognize that the elimination of these forces in the Baltic would be a difficult task. According to operational availability information reported to NATO, the Danes and West Germans probably would have 23 diesel-powered submarines and 40 fast patrol boats, 23 of the latter missile armed, after two to four days of preparation. Obviously, it would be preferable for the Pact to destroy these ships at their bases, but a period of tension would provide time for them to deploy and disperse, obliging the Pact to locate and destroy them at sea or in concealed anchorages. This would require effective coordination of all Pact forces, an undertaking which Pact planners acknowledge would be difficult.

140. Air superiority would be a critical ingredient to Pact Baltic Sea operations. As part of the effort to gain overall theater air superiority at the outset of a conflict in Central Europe, initial Pact air operations in the Baltic would be directed against West German and Danish naval bases and airfields and against NATO naval units already present in the area in an attempt to establish sea control and air superiority for the protection of subsequent Pact amphibious operations. Pact air forces probably would also operate against NATO naval forces in the North Sea. Initial strikes by Baltic Fleet bombers against NATO air defenses in Denmark and northern West Germany might be part of air operations in Central Europe or at least would be coordinated with those operations. Such strikes would facilitate the overflight of Soviet naval aircraft en route to NATO naval targets in the North Sea. Achievement of air superiority over the Baltic would depend largely on the success of the Pact's critical offensive Air Operation in Central Europe.

141. The Soviets probably would find it difficult to deal with West German and Danish submarines in the Baltic, particularly if these forces were well coordinated. NATO boats have good shallow-water operating capabilities, are quiet, and have well-trained crews. Moreover, the Soviets would find it difficult to conduct antisubmarine warfare operations without air superiority. Under the difficult hydrological conditions that generally characterize the Baltic, we believe that Pact ASW sensors would be inadequate to detect

submarines at useful ranges except possibly in harbor entrances and a few close-in coastal areas. Efforts to use moored acoustic buoys have had little success thus far. Furthermore, Soviet shipborne and airborne ASW forces in the Baltic have been unsuccessful in their attempts to follow up contacts.

142. [ ] we believe that if initial sea control and air superiority operations were successful, Pact forces in the Baltic would then concentrate on supporting the Polish (Northern) Front's offensive across northern West Germany and into Jutland. Combined amphibious and airborne landings are planned against the Danish islands. The Soviets consider seizure of these islands, especially Zealand, to be necessary to prevent naval use of the Baltic by NATO, to permit passage of Soviet naval forces to and from the North Sea, and to be able to carry out subsequent amphibious operations against southern Norway. Early airborne or amphibious operations are also planned against Bornholm Island to neutralize NATO intelligence collection facilities there and prevent its subsequent use by NATO combat forces.

143. Amphibious operations in the Baltic would involve ships from the Soviet, Polish, and East German Navies, plus mobilized merchant ships. Assault forces would be drawn from the Soviet Baltic Fleet naval infantry regiment, the Polish sea landing division, and a specially trained regiment of an East German motorized rifle division. A Polish mechanized division which has received some amphibious training and Soviet motorized rifle divisions from the USSR could be included in follow-on landings. The amphibious landings would be coordinated with the ground offensive in Jutland and with airborne landings by a Polish division and perhaps Soviet airborne troops. Because of a shortage of NSWP landing craft, some Polish and East German amphibious assault forces probably would use Soviet transport forces in the initial assault.

144. Pact planners recognize that the amphibious operation would require the multinational integration of a variety of forces, including tactical aircraft and mine warfare, ASW, gunfire support, and logistic ships. This continues to be a problem for the Pact in its combined Baltic Sea amphibious exercises. We conclude that failure to attain air superiority and sea control of the western Baltic, especially during a conventional war, would almost certainly cause the Pact to reconsider the feasibility of its planned

amphibious operations. If the amphibious assaults were canceled, Pact planners would also have to decide if any airborne operations could be conducted independently.

145. Pact planners believe that a key element in all Baltic operations would be to thwart NATO minelaying operations by destroying mine stockpiles and minelaying ships before they deploy. We have reliable evidence that Pact planners would consider NATO minefields off the Danish and German coasts to be a serious threat to their amphibious operations. The task of clearing paths through large fields of contact and influence mines, particularly if opposed by NATO air and naval forces, would be viewed by the Pact as extremely difficult and potentially quite costly. In addition, Pact mine-clearing forces have not demonstrated a high level of proficiency in exercises or other peacetime operations such as in the Gulf of Suez. Nonetheless, Pact naval forces in the Baltic have approximately 175 mine warfare ships and craft of all types and routinely train in mine-clearing operations.

146. According to one view in the Intelligence Community, the allocation of most Pact tactical and LRA bomber aircraft to a large-scale Air Operation in West Germany and the Benelux countries would severely reduce the probability of the Pact's achieving air superiority over the Baltic in the initial stage of a war with NATO.<sup>13</sup> Without air superiority the Pact would have a low probability of sweeping NATO's mines or of successfully defending the amphibious force against NATO missile-armed fast patrol boats. It is further believed that Pact ASW forces probably would be unable to prevent NATO submarine attacks against the amphibious forces. This conclusion is based on the judgments contained in paragraph 141.

147. An alternative view holds that the Warsaw Pact's achievement of air superiority over the Baltic would depend on many factors, including the allocation of Pact naval aviation aircraft to suppression of NATO air capabilities in the Baltic area, the degree of success the Pact forces might achieve in these air operations, and the speed with which they achieved it.<sup>14</sup> The holders of this view believe that the conclu-

<sup>13</sup> The holders of this view are the Central Intelligence Agency; the Director, National Security Agency; and the Director, Bureau of Intelligence and Research, Department of State.

<sup>14</sup> The holders of this view are the Director, Defense Intelligence Agency, and the Assistant Chief of Staff, Intelligence, Department of the Air Force.

sions expressed above would be highly sensitive to a number of additional factors, including assumptions about the interaction of NATO and Pact surface and subsurface forces, as well as about the timing and urgency which the Pact attached to prosecution of the amphibious operations. They observe that analysis of all these factors has not been sufficient to support any conclusions, explicit or implied, as to the probability of success or failure of Pact amphibious operations, or the degree to which the Pact could defeat NATO submarine operations, in the Baltic.

148. A third view holds that the achievement of air superiority is but one of a number of key factors which, taken together, will determine the outcome of the Pact's Baltic campaign.<sup>15</sup> The holder of this view considers that allocation of considerable air assets to the Pact's Baltic campaign is likely but believes that other factors of equally critical importance include the extent of Pact success in countering NATO mining and submarine operations in the approaches to the Danish Straits.

149. In addition to the initial naval operations in the Baltic itself, other operations would be conducted in the North Sea to destroy important NATO maritime targets, especially aircraft carrier or amphibious forces, to prevent NATO naval reinforcements from entering the Baltic, and to sever the lines of communication through the North Sea to the European continent. Evidence indicates that air operations against surface ships in the North Sea and its approaches would be conducted primarily by missile-equipped aircraft of the Baltic Fleet and possibly some from the Northern Fleet. Pact planners envision that operations from Baltic airfields probably would require the establishment of safe flight corridors—probably using some of these same missile-equipped aircraft—across Denmark or northern West Germany. They also probably believe that airstrikes by way of the Norwegian Sea would require suppression of Norwegian- and UK-based air defenses. If the Pact's initial air defense suppression operations were successful, those surviving strike aircraft not on nuclear alert would then be available to attack NATO forces in the North Sea. Initially, in a period of conventional warfare, as much as one-third of the Baltic and Northern fleet naval aircraft probably would be withheld for nuclear operations.

<sup>15</sup> The holder of this view is the Director of Naval Intelligence, Department of the Navy.



150. [ The Soviets intend to deploy a few Baltic and Northern Fleet submarines to the North Sea before the outbreak of hostilities to complement the antiship operations of Pact aircraft. A deployment from the Baltic, however, would provide warning indications to NATO. We believe that deployment of surface ships into the North Sea prior to hostilities would be unlikely because the Pact would lack air cover there early in a war.

#### Initial Campaigns Against NATO's Flanks

151. The Soviets also have plans for offensive action in other NATO regions. [

152. We have little direct evidence on the Pact's view of the timing of these flank offensives in relation to an offensive in Central Europe. We judge, however, that the Pact would be unlikely to start a war by mounting major ground offensives against all NATO sectors simultaneously. To do so would unnecessarily extend available Pact forces, airlift, and air and logistic support and would complicate command and control at the General Staff and Supreme High Command levels. The planned Pact air offensive in Central Europe would tie up the bulk of the Pact's tactical air forces and Soviet intermediate-range bomber forces for at least the first week, and the Soviet airlift could not simultaneously support two major airborne operations such as those contemplated against the Danish and Turkish Straits. Moreover, there could be political considerations that would lead the Soviets to defer attacks on some NATO countries in the hope of encouraging their nonbelligerence.

153. We believe that the need for unfettered naval operations from their Northern Fleet bases would almost certainly cause the Soviets to strike NATO facilities in northern Norway, and probably to attempt to occupy some territory there, and that the urgency of this need would lead them to do so concurrently with starting an attack in Central Europe. We also would expect attacks on NATO naval forces in the Mediterranean to occur at the onset of hostilities in Central Europe. None of the other potential flank

offensives appear to have this degree of urgency, although the Pact would be likely to move against the Turkish Straits early in a war. Even if the Pact did not begin ground offensives immediately in some flank areas, it would almost certainly make feints or conduct holding actions intended to keep NATO from shifting forces from the flanks to Central Europe, compel commitment of NATO reserves, and weaken NATO forces on the flanks in anticipation of further operations.

#### The Southwestern Theater of Military Operations

154. We have good evidence that the Soviets are concerned about the sizable groupings of NATO forces in the south and especially the threat of air and nuclear strikes which they expect would be launched against Eastern Europe and the USSR by the US 6th Fleet during a NATO-Warsaw Pact war. Accordingly, the Soviets assign high priority to the destruction of Western ballistic missile submarines (SSBNs) and aircraft carriers in the Mediterranean early in a war. They also place great importance on capturing the Bosphorus and the Dardanelles.

155. The Pact views early seizure of the Turkish Straits as crucial to the success of its maritime strategy in the Southwestern TVD for the following reasons:

- It would be necessary for wartime augmentation of Soviet naval forces in the Mediterranean by naval forces from the Black Sea. It also would permit the return of ships to the Black Sea for repairs and resupply.
- It would deny entry into the Black Sea of additional NATO ships and submarines.
- It would deny NATO use of the Straits area for launching any attacks against the USSR or Pact forces in the Black Sea, and permit Pact use of the area to support attacks into the Mediterranean.

156. In addition, Soviet writings stress the strategic importance of Austria as a link between the Western and the Southwestern TVDs and cite the importance of being prepared to counter any NATO threat launched across Austrian territory. There is also evidence that the Pact has plans for a major attack on northern Italy and deep offensives into Greece and Turkey. Pact theater exercises in the Southwestern TVD have depicted the launching, in response to NATO attacks, of multifront Pact offensives against all

the aforementioned objectives simultaneously with the Central European campaign. We believe that to achieve its more important objectives, however, the Pact would confine its initial ground operations to the Straits area, Austria, and possibly eastern Turkey. In addition, at the onset of war, air and naval attacks would almost certainly be mounted against NATO forces in these areas and in the Mediterranean.

157. *Ground Operations.* [

]he Pact has contingency plans for offensive operations in the south directed against Austria and possibly northern Italy, the Bosphorus, the Dardanelles, Greece, eastern Turkey, and possibly Iran. [

]Yugoslavia as neutral in a NATO-Pact war, but conceivably the Pact might attempt to advance through Yugoslavia to attack northern Italy. The success of such a move would depend primarily on the attitude and political position of the Yugoslav Government. If the government authorized the transit of Pact forces through Yugoslav territory, the Pact would have shorter and quicker access to northern Italy. If Yugoslavia remained neutral, any Pact incursion probably would prompt armed resistance and defense of the homeland by the Yugoslav armed forces, which could seriously detract from the Pact's main efforts in Central Europe. On balance, we judge it unlikely that Yugoslavia would grant the Pact permission to use its territory or that the Pact would use force to advance through Yugoslavia to attack northern Italy. This judgment is qualified, however, by our uncertainty concerning future political attitudes and developments in Yugoslavia in the post-Tito era.

158. In wartime, four Soviet divisions in Hungary and the six divisions of the Hungarian Army would be subordinate to the Danube Front. (See figure 20.) [

]this front would move into Austria to protect the flank of the Western TVD and to destroy any NATO forces that might have entered Austrian territory. [ ]this invasion is preceded by either a West German or an Italian incursion into Austria. In any case, we believe that the Pact would invade Austria at the start of a war to secure the southern flank of the Western TVD.

159. [ ]the Pact expects that it would take about two weeks to defeat the main bodies of Austrian and NATO forces in Austria and be in a position to advance into northern Italy. Given this timing, we believe that the Pact sees an invasion of Italy primarily as a possible followup

operation and not essential to the success of the initial campaign against NATO. Moreover, an early move toward Italy could present a difficult problem for Pact commanders, inasmuch as the main objective of the Danube Front, at least during the first week of the war, would be to protect the flank of the Western TVD.

160. Before initiating an assault against the Turkish Straits, the Soviets plan to move ground and air forces from the Odessa Military District into Bulgaria, with most of these forces transiting Romania. These forces, probably augmented by Bulgarian and Romanian forces, would form the Odessa Front, consisting of as many as 12 divisions. This front's objectives would be to destroy Turkish forces in eastern Thrace, to break through the fortifications protecting the land approaches to the Turkish Straits, and to seize the Straits. Amphibious and airborne operations, using primarily Soviet forces—probably one motorized rifle regiment and one naval infantry regiment—and a Bulgarian naval infantry battalion, would probably be conducted to support a forced crossing of the Bosphorus by elements of the Odessa Front. The Pact would coordinate the timing and location of amphibious landings with both airborne operations and the movement of the Odessa Front along the southwestern littoral of the Black Sea. Soviet surface naval forces would almost certainly be used to establish sea lines of communication to augment the relatively poor landlines supporting the Maritime Front.

161. Timing the seizure of the Straits would present Pact planners with special problems:

- Operations to seize the Straits would require Soviet ground forces from the Odessa Military District. Once these forces were mobilized we estimate that they would require about a week to be in position to launch an attack from Bulgaria. If they were to move before the start of a war, this movement would provide warning to NATO in the Southwestern Theater and elsewhere as well.
- The ground campaign to seize the Straits would be difficult and time consuming and would provide NATO time to obstruct the Straits and thus deny their immediate use after seizure.
- The Soviets probably would consider that the airborne division and naval infantry regiment which would be available for joint amphibious

Illustrative Warsaw Pact Operations in the Southwestern TVD

Figure 20



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and airborne assaults would not be large enough to overcome Turkish defenses and secure the area without timely linkup with the Maritime Front. Airborne operations in this theater would also compete for lift resources with operations planned in the Western TVD—which has precedence—and would therefore have to await the accomplishment of these operations.

162. On the western flank of the Odessa Front, the remaining Bulgarian forces, consisting of four to six motorized rifle divisions and three tank brigades, would form the nucleus of the Balkan Front. This

front might also include some Romanian forces, although it is more likely that the Romanians would constitute their own national front in the TVD's second echelon. [ ] the mission of the Balkan Front is to break through Greek fortifications and to advance to the Aegean Sea and from there into the main part of Greece. However, considering the size of the Balkan Front and the questionable commitment of Romanian forces to the offensive, we believe that the Balkan Front would probably confine its actual wartime operations to engaging Greek forces in the Thrace area and to defending the western flank of

the Maritime Front's forces attacking the Turkish Straits.

163. [

] While the Soviets might launch a limited offensive into eastern Turkey, we do not believe that they would undertake operations against Iran during the initial phase of a war.

164. There are important constraints on initial Pact ground operations in the Southwestern TVD:

- The Pact probably would not be able to achieve general air superiority or cripple NATO's nuclear war-fighting capability in the theater during conventional conflict. In the Balkans the Pact lacks sufficient ground attack aircraft for simultaneous air attacks against aircraft carriers, NATO airfields, and important air defense, nuclear, and command and control targets.
- The Pact would also face difficult terrain in most of the Southwestern TVD which would impede rapid force deployment and resupply and facilitate NATO defense. Soviet writers question the Pact's ability to overcome the region's mountains, water obstacles, limited transportation network, and prepared NATO fortifications. [

]

- Soviet forces are at a considerable distance from their wartime areas of operation. Prehostilities deployment of forces would alert NATO and permit defensive preparations, not only in this secondary theater, but in Central Europe as well.
- Romanian forces, as well as Romanian operation and defense of lines of communication, would be vital to sustaining Pact offensive operations against Greece and western Turkey. Romanian reliability is thus a key to sustained Pact offensive operations in the area.

165. Nevertheless, Pact land operations in these areas, if successful, would offer potential benefits. Seizure of the Straits would give the Pact flexibility in committing units from the Black Sea Fleet and provide a more secure line of communication for the Mediterranean Squadron. A Pact advance into Austria

would threaten NATO forces in southern Germany and northern Italy, while an offensive into eastern Turkey would tie down Turkish forces in the area.

166. *Initial Naval Operations in the Black Sea.* We have reliable evidence that as part of the offensive by the Pact's Odessa Front, the Soviet Black Sea Fleet would attempt to secure control of the Black Sea, support the movement of Pact ground forces along the western littoral, and assist in seizing the Turkish Straits. Pact air and sea superiority in the Black Sea would be particularly critical to the Pact's capability to provide air and ASW defense for the amphibious force designated to aid in seizing the Turkish Straits. To assist in the achievement of air and sea superiority and to protect the amphibious force, the Soviets probably would retain in the Black Sea at least some of their available larger combatants equipped for ASW and air defense—such as Moskvys, Karas, Kashins, and Krivaks. If none of these newer and more capable Soviet units were available to support Pact naval operations in support of the ground offensive, Pact capabilities to defend these operations against NATO might prove inadequate.

167. *Initial Air and Naval Operations in the Mediterranean.* An important initial mission of Pact tactical air forces would be to suppress NATO's forward air defenses in southern Europe, thus permitting the overflight of Long Range Aviation and naval aircraft heading for the Mediterranean. The Pact may also have plans to conduct a conventional Air Operation using tactical and LRA aircraft against NATO airfields in the Mediterranean area, but its ability to conduct such an operation would be constrained by the concurrent requirement for LRA bombers to conduct an air offensive in Central Europe and by the limited number of Pact fighter-bombers in the Southwestern TVD. Pact air support of the ground forces would probably be confined largely to key areas, such as the Turkish Straits.

168. Soviet naval operations in the Mediterranean would begin at the start of a war and would be aimed primarily at the destruction of Western SSBNs and aircraft carriers. Forces used would consist of surface and submarine units in the Mediterranean at the outset of hostilities, as well as Soviet naval and perhaps LRA aircraft operating from bases in the Soviet Union and possibly from NSWP countries.

169. [ ] Soviet naval deployment patterns indicate that the Soviets expect most activity by



their surface forces to be concentrated in the Mediterranean east of Sicily. [the initial attacks by Soviet ships and submarines of the Mediterranean Squadron almost certainly would not occur before Pact operations began in other areas of the theater. The Black Sea Fleet Air Force would follow with strikes using air-to-surface missiles (ASMs) while tactical aircraft and Soviet naval free-fall bombers were suppressing NATO air defenses. Some LRA aircraft, especially missile-armed Blinders and Backfires, might participate in raids against carriers, although most of LRA probably would be committed against Central Europe.

170. While the most immediate threat would come from Soviet ships and submarines already deployed in the Mediterranean, numerically the most sizable threat to NATO's naval forces there would come from missile-equipped Soviet strike aircraft, despite the fact that they would be operating without fighter escort. In a conventional war the USSR-based Black Sea Air Force could sortie about 40 ASM strike aircraft, carrying as many as 80 missiles, which could attack throughout the eastern Mediterranean. The Soviets would probably hold another 20 ASM strike aircraft with 40 missiles in reserve as a hedge against escalation to nuclear war. Backfire strike aircraft can cover virtually the entire Mediterranean from Black Sea airfields. Badger aircraft can carry out attacks in most of the eastern Mediterranean from Black Sea or NSWP airfields.

171. The Soviets normally keep eight to 10 submarines, including two cruise missile units, in the Mediterranean in peacetime. The cruise missile submarines

[probably would be in a position to attack at the outset of hostilities. In wartime the other submarines probably could monitor Western naval movements near major choke points and possibly near some of the main NATO naval bases. By itself, however, the submarine force normally deployed in the Mediterranean is not large enough to attack all Western aircraft carriers and other potential NATO naval targets there at one time. Reinforcement from the Northern Fleet would take almost two weeks for nuclear-powered submarines (more than three weeks for diesels) and provide NATO with warning indications if conducted before war broke out. Because of competing tasks elsewhere, limitations on the availability of submarines, and logistic constraints, we estimate that the submarine formation in the Mediter-

anean probably would not be reinforced before the outbreak of hostilities.

172. There is evidence that Soviet submarines in the Mediterranean would expend torpedoes only in self-defense or against high-value targets, especially aircraft carrier task groups, amphibious task groups, and US nuclear-powered submarines. Soviet submarines, because of their lack of survivable replenishment points, would probably not, as a matter of course, fire their torpedoes against merchant ships in the Mediterranean until they had succeeded in their attacks on high-value targets or were returning to base.

173. Soviet surface forces normally in the Mediterranean consist of seven to nine combatants and 25 auxiliaries. These forces would conduct ASW operations, and serve as target spotters and trackers for strikes by submarines, aircraft, and other surface ships. They would also provide command and control support for Soviet submarines and aircraft. These ships almost certainly would be operating in an environment in which NATO had air superiority, however, and, along with Soviet submarines, would be the targets for some 30 NATO submarines.

174. There are divergent views within the Intelligence Community on whether or the extent to which the Soviets would augment their surface forces in the Mediterranean during a period of tension preceding the outbreak of hostilities. All agree that the intelligence evidence and other considerations which bear on this question include the following:

- We have no evidence from Pact military writings of plans to augment the surface force in the Mediterranean during a period of tension before the outbreak of hostilities. One reference relating to augmentation of the Mediterranean force suggests that it would occur after Pact seizure of the Turkish Straits. Other Soviet writings, in stressing the importance of ASW and anticarrier operations at the outset of a war, imply that the introduction of additional surface ships into the Mediterranean before a war began would be a logical step.
- Of some 60 principal surface combatants typically available in the Black Sea Fleet, seven to nine are normally deployed to the Mediterranean.
- The Soviets have sortied major surface warships from the Black Sea to augment the Mediterranean.



nean Squadron during major fleet exercises and in times of crisis. Following the 1973 Arab-Israeli war, for example, the Soviets almost doubled the size of the Mediterranean force and demonstrated the capability to augment the force quickly.

- Such an act would be a clear warning indicator, and it could be counterproductive, depending on NATO's reaction. On the other hand, it might be viewed by the Soviets as a way to demonstrate their resolve during a crisis.
- The Soviets recognize NATO's capability to block the Turkish Straits, and must consider that such operations could occur early in a war. Consequently, Soviet planners could not count on unobstructed passage to or from the Mediterranean after the outbreak of hostilities.

175. Some believe <sup>26</sup> that the Mediterranean Squadron probably would be augmented by at least a few, and possibly up to 12, of the large surface combatants in the Black Sea—such as Moskvys, Karas, Kyndas, and Kashins—before the outbreak of hostilities. Others believe <sup>27</sup> that the Soviets would deploy no more than a few, if any, large combatants from the Black Sea before the outbreak of hostilities. The difference in judgment turns on whether the main purpose of the Black Sea Fleet is to provide air and ASW defense for operations against the Turkish Straits, or whether it is to augment the Mediterranean Squadron. The holders of the first view believe the Fleet is in excess of requirements for the defense of local waters in the Black Sea and offensive operations against Turkey and judge that, in any event, augmentation of the Mediterranean Squadron would not jeopardize an assault on the Straits. They argue that the time required to seize and clear the Straits and general uncertainty attending such an operation militate against the Pact's holding its forces in the Black Sea, risking their exclusion from use in the Mediterranean. Holders of the second view point out that naval units sortied during periods of tension could be trapped in the Mediterranean, where they would be highly vulnerable to attack. They judge that Pact planners would view seizure of the Straits as more important than a modest augmentation of the Mediterranean Squadron.

<sup>26</sup> The holders of this view are the Director, Defense Intelligence Agency; the Director, National Security Agency; and the Director of Naval Intelligence, Department of the Navy.

<sup>27</sup> The holders of this view are the Central Intelligence Agency and the Director, Bureau of Intelligence and Research, Department of State.

#### The Northwestern Theater of Military Operations

176. Initial Soviet objectives in the Northwestern TVD center on ensuring freedom of action and uninhibited access to the open ocean for Soviet naval ships and aircraft and on maintaining the forward defense of the extensive complex of naval bases and strategic installations located on the Kola Peninsula. (See figure 21.) Initial operations by Soviet land forces probably would be limited to northern Norway. We have no evidence indicating that the Soviets plan for a general offensive against Finland or Sweden early in a war.

177. *Naval Operations.* Soviet exercises suggest that, with the opening of hostilities, the Northern Fleet would attack Western submarines, aircraft carriers, and amphibious task forces detected approaching the Barents and Norwegian Seas.<sup>28</sup> Some LRA bombers and Frontal Aviation fighter-bombers—supplemented by naval bombers, when available—probably would strike NATO naval facilities, airbases, communications sites and surveillance posts in northern Norway. Soviet amphibious ships carrying up to a regiment of Soviet naval infantry probably would attempt to seize limited objectives along the northern Norwegian coast. After the naval infantry had secured a suitable port, follow-up Soviet ground forces from the Pechenga area could be landed from merchant vessels.

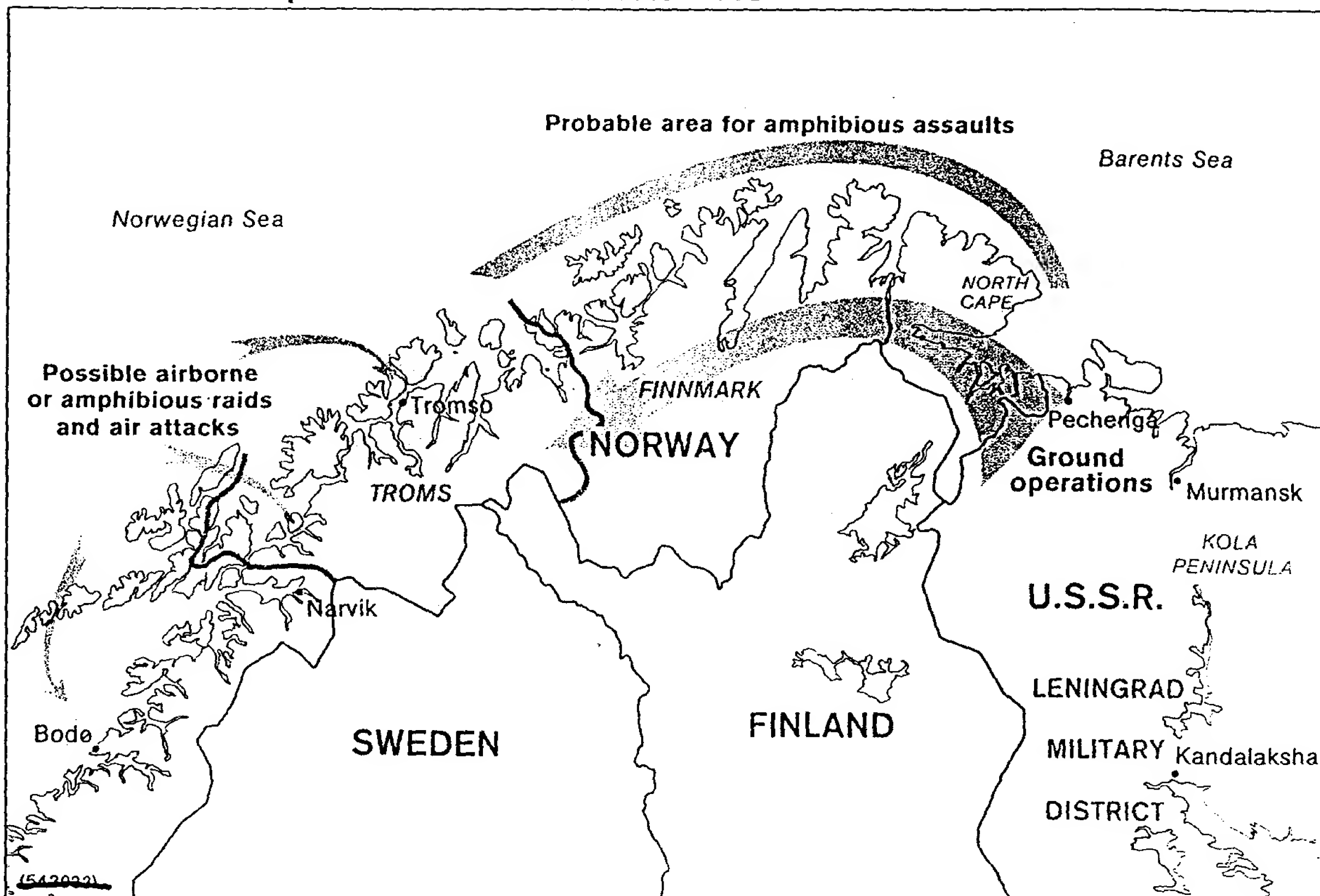
178. We do not anticipate any large-scale amphibious operations because the Soviets are limited in their assault lift capacity and their capability to overcome determined resistance from the beach. Initial amphibious operations probably would be confined to the coast of Finnmark, under conditions suitable for an early linkup with the ground forces. The Soviets probably would, however, commit a large number of smaller combatants to an escort role in support of operations in northern Norway.

179. *Ground Operations in Northern Norway.* Because of the limited availability of ground forces and tactical aircraft in the northern Leningrad Military District and the high priority given to naval missions against NATO naval strike forces, we believe an initial Soviet ground offensive would be limited to the Finnmark area. Potentially strong NATO resistance beyond Finnmark and the risk of drawing in far greater forces than exist in the Kola Peninsula area would probably deter major Soviet ground offensives

<sup>28</sup> The section beginning at paragraph 184 discusses Soviet naval operations in these areas.

Illustrative Soviet Operations in the Northwestern TVD

Figure 21



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in the north until an acceptable outcome in Central Europe had been achieved. Moreover, the better defended—and more defensible—Norwegian territory south of Finnmark is at the extreme limits of Soviet tactical air coverage.

180. Soviet exercises indicate that initial ground operations against northern Norway probably would be made by elements of the two Soviet divisions at Pechenga and Kandalaksha. We believe that subsequent operations could extend as far south as Tromso and Narvik. Seizure of Norwegian bases in the Tromso area early in the war would be important to the Soviets because it would provide greater flank security for their naval forces in the Norwegian Sea. Initially, we could expect small-scale airborne or amphibious raids against these bases in an attempt to disrupt NATO operations. We would also expect bombing

attacks against them by available LRA and Navy bombers. But we would not expect initial large-scale airborne or amphibious assaults in this area because of the lack of adequate air cover or air and amphibious lift, and the doubtful ability of ground forces advancing across Finnmark to effect early linkup.

181. The Soviet motorized rifle regiments from the two northern divisions are specially structured and equipped for operations in the Arctic. Although these units can easily traverse the terrain in northern Norway, lines of communication over land would be difficult to maintain because only one major road runs through the area. There is some evidence indicating that the Soviets plan to alleviate this shortcoming by resupplying ground forces by sea. We do not believe that the Soviets would attempt a large-scale airborne assault in northern Norway because the demands for

air transport elsewhere against NATO probably would preclude early use of a formation as large as a complete airborne division. The Soviets might attempt to insert small teams to sabotage transportation, communications, and intelligence facilities, however.

182. *Air Operations.* Air support for the Soviet ground forces in Finnmark would come primarily from the some 120 Frontal Aviation ground attack and reconnaissance aircraft in the Leningrad Military District. [

] There are no Frontal Aviation fighter regiments in the Leningrad Military District, although fighters from three regiments of the Soviet strategic air defense forces on the Kola Peninsula could provide air cover to a distance of about 200 kilometers over Norway.

183. We have some evidence that the Soviets would use LRA bombers in an attempt to destroy or suppress land-based NATO air defense forces in northern and central Norway, probably to clear a path for naval strike, reconnaissance, and ASW aircraft flying against NATO carrier forces and submarines in the Norwegian Sea. If the Soviets chose to avoid Norwegian-based air defenses, they would route transiting aircraft north of North Cape and then down the center of the Norwegian Sea. Such routing would reduce the exposure of the aircraft to land-based air defenses, but it would decrease significantly the combat radius of the aircraft, the time they could spend in their operating areas, and the promptness of anticarrier strikes. It seems unlikely that many LRA bombers or even tactical aircraft would be made available for strikes against Norwegian air defenses, given the requirement for large numbers of these aircraft in the Central Region.

#### Naval Operations in the North Atlantic

184. In wartime the Soviets evidently expect NATO to deploy aircraft carriers, ballistic missile submarines, and large numbers of attack submarines against Soviet surface and submarine forces operating in the North Atlantic. In addition, the Soviets [

] believe NATO would attempt amphibious landings in northern Norway and use the Norwegian Sea as a launch zone for carrier-based strikes against the USSR. They also expect NATO to establish antisubmarine barriers in the Greenland-Iceland-

United Kingdom gap and off northern Norway to prevent passage of Soviet submarines. The Soviets' concern for penetrating NATO naval barriers is reflected in [

] 185. The Norwegian Sea, especially its southern half ending at the G-I-UK gap, is central to Soviet naval strategy in the North Atlantic. While the Soviets clearly expect naval engagements throughout the North Atlantic, they reckon that by far the heaviest combat would occur near and inside a maritime theater of military operations (MTVD) which they evidently would establish north of the G-I-UK gap. Soviet operations in this MTVD would be intended to prevent NATO naval incursions into an ocean area the Soviets consider critical to successful defense of their homeland, especially the Kola Peninsula.

186. Soviet strategy calls for the early establishment of control of the Norwegian and Barents Seas and their approaches. Operations farther into the North Atlantic to prevent transit of NATO carriers and amphibious task groups and to divert NATO naval strength are probably also planned. The Soviets would attempt to neutralize Western SSBNs near their bases and in the Norwegian Sea before they could launch their missiles.

187. The establishment of control of the Norwegian and Barents Seas and their approaches probably would involve most of the Northern Fleet's submarines and virtually all of the surface forces and aircraft in an effort to exclude NATO forces from the area. The Soviets probably also plan submarine and air operations against NATO naval forces as they exit their bases in Europe and possibly against SSBNs from US bases as well. In addition, at least some submarines would attack shipping engaged in resupply and reinforcement of Europe early in a war."

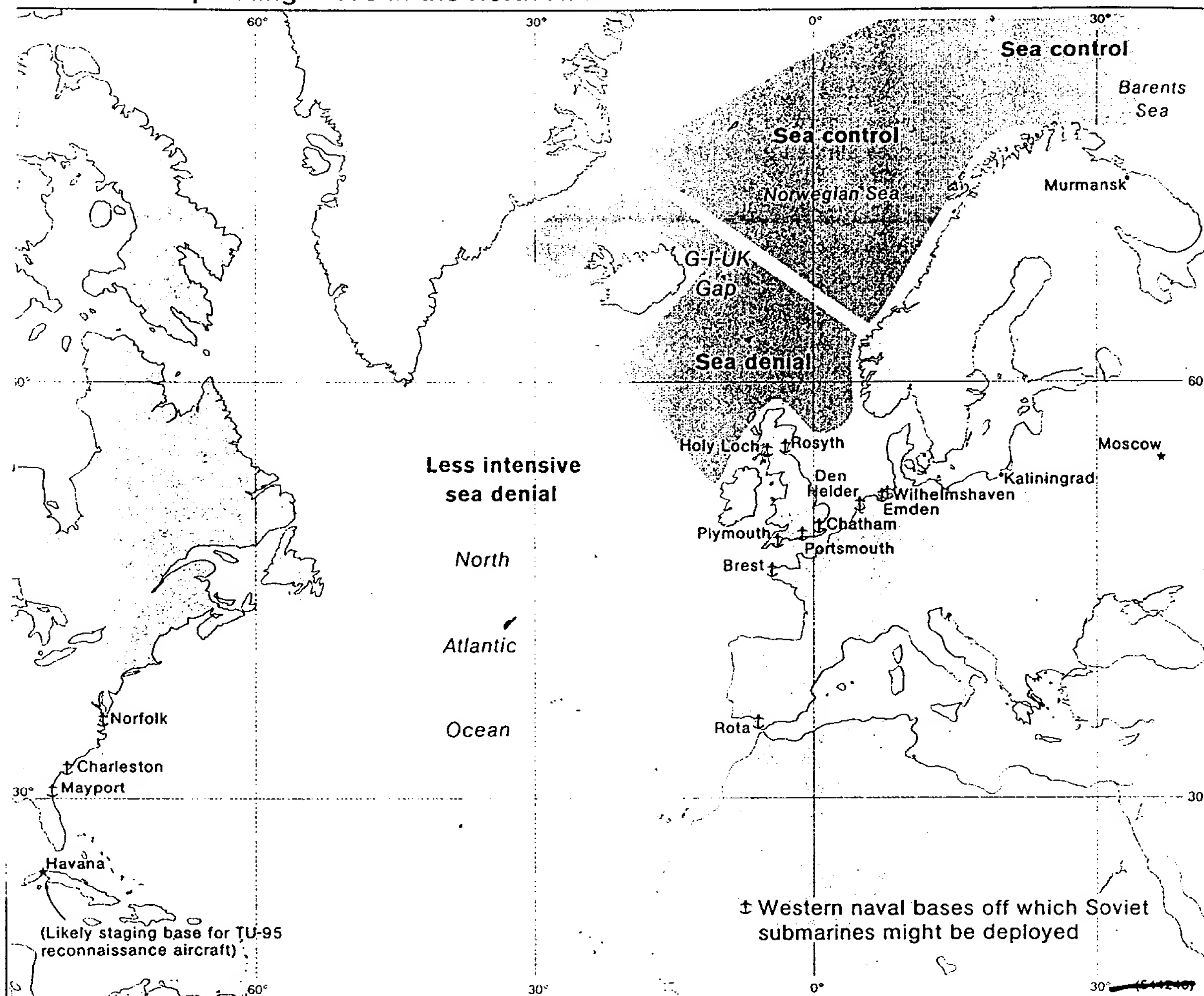
188. Soviet plans for controlling the Norwegian and Barents Seas and their approaches apparently consist of a deployment in depth. (See figure 22.) [

] the Soviets plan to weaken or defeat NATO's naval forces in the Norwegian Sea or approaching the area from the United States and the United Kingdom by successive and coordinated assaults by submarines, strike aircraft, and surface combatant ships.

" See the inset on pages 42 and 43 for differing agency views on Soviet plans and capabilities for interdiction of sea lines of communication.

Initial Soviet Operating Areas in the North Atlantic

Figure 22



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189. Because of range and time-on-station constraints on naval strike aircraft and the vulnerability of Soviet surface combatants when operating out of area, the Soviet attack submarine force would be the principal element for sustained operations in the North Atlantic. The Soviets have about 130 operational cruise missile and torpedo attack submarines in the Northern Fleet, but about 40 percent are in various stages of repair or workup at any one time. Thus, about 80 submarines (with varying degrees of combat effectiveness) would be available for operations at the outset of hostilities. If about 10 of these submarines continued to be committed to operations in the Mediterranean and the Soviets did not augment their forces there

during a period of rising tension, some 70 submarines would be available for operations in the Atlantic. This force would be subjected to heavy demands in wartime, and the Soviets probably would not have as many attack submarines as they deem necessary to perform all important naval missions.

190. We do not know precisely how the Soviets would apportion their naval forces among their several tasks in the initial stages of a war with NATO. Information available regarding Soviet objectives, exercises, and force deployments does, however, provide the basis for estimating likely initial force allocations. We recognize that Soviet naval deployments could be



largely contingent on NATO operations at the outset of hostilities. If the Soviets were to perceive that NATO did not intend to send aircraft carriers into or near the Norwegian Sea, for example, large numbers of submarines could be dedicated to missions elsewhere. Even if NATO carriers deployed into or near the Norwegian Sea, Soviet force allocations could shift, depending on the outcome of the initial engagements. For example, successful Soviet attacks early in a war on NATO carriers and amphibious task groups operating north of the G-I-UK gap might encourage them to take a more active subsequent role in the Atlantic south of Iceland. On the other hand, should Soviet forces suffer a serious reverse, they would be likely to continue to concentrate their efforts in the Norwegian and Barents Seas.

#### Potential Effectiveness <sup>20</sup>

191. *Submarines.* In conducting these operations, Soviet submarines would be present in large numbers, but they would be limited by their poor detection capability against Western ballistic missile and attack submarines. This makes it unlikely that Soviet submarines would be able to solve the initial ASW problem of target location and would make it difficult to protect themselves from NATO submarines.

192. The Soviets consider that a key but difficult task for their attack submarines during the conventional phase of a war would be the protection of Soviet SSBNs from NATO ASW forces, particularly nuclear attack submarines (SSNs). The Y-class, for example, not only is much noisier than Western nuclear submarines, but also, in order for its SS-N-6 missiles to reach targets in the United States, must operate in areas where it is subject to detection by the US sound surveillance system (SOSUS) and where it would have little or no support from other Soviet forces. They therefore probably would assign a few of their best attack submarines to provide escort for Y-class SSBNs. Because Western SSNs can launch torpedoes outside the detection envelope of Y-class submarines, the Soviets probably could not prevent at least some of their SSBNs from being destroyed.

193. For anticarrier warfare, the Soviets' reliance on external targeting support could effectively restrict

<sup>20</sup> See paragraphs 198-200, setting forth an alternative view of the Director, Defense Intelligence Agency, and the Director of Naval Intelligence, Department of the Navy, concerning paragraphs 191-197.

the operating areas of their long-range missile submarines, such as the E-II and the J-class, to areas within range of the Bear D aircraft. In addition, these submarines must surface to launch their missiles and hence would be vulnerable. The more modern C-class would pose a more serious threat in distant waters, but these submarines probably would not be able to keep up with fast-moving carrier strike forces. Moreover, Soviet cruise-missile-armed submarines normally carry a mixed load of nuclear and conventionally armed missiles, thereby reducing the number available for conventional strikes.

194. *Aircraft.* The success of antiship attacks by naval or LRA aircraft would hinge primarily on the capabilities of the aircraft and their cruise missiles to penetrate a series of NATO land-based and fleet air defenses. These defenses include land- and ship-based aircraft, surface-to-air missile systems, and electronic countermeasures systems to confuse, decoy, or disrupt the sensors of incoming aircraft or cruise missiles. [

] If Soviet strike aircraft successfully penetrated or avoided NATO land-based air defenses, they then would have to deal with formidable fleet air defenses.

195. The first line of fleet air defense typically would be an outer zone defended by carrier-based early warning aircraft and interceptors. It could extend more than 400 nautical miles from the fleet, well beyond the 200-nm maximum missile launch range of the best Soviet air-to-surface missiles. A Soviet airstrike against a NATO task group including two US aircraft carriers, for example, might have to confront more than 30 carrier-based interceptors. Soviet strike aircraft, especially the TU-16 Badgers, would be highly vulnerable to attacks by interceptors as they maneuvered to launch their ASMs. Although individual Badgers would be vulnerable because of their slow speed and lack of extensive electronic countermeasures (ECM) equipment for self-defense, one or more Badger ECM aircraft probably would be part of each attack formation. The Backfire would be better able to survive because of its high-speed capability—near Mach 2 at high altitude—and modern ECM equipment, although both the Badger and the Backfire have large radar cross sections which would make them



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easily detectable. Cruise missiles, flying at speeds of Mach 2.5 to 3.5 and launched by aircraft which successfully penetrated the interceptor zone, would face shipborne SAM, gun, and ECM systems.

196. *Surface Forces.* The effectiveness of Soviet surface combatants in the Norwegian Sea would be a function not only of their capabilities as individual ships, but also of their cooperation with each other and with submarines and aircraft. As individual units, Soviet surface ships would be particularly weak in providing area air defense against US and UK attacking aircraft and protection against low-flying aircraft and cruise missiles. Their ASW capability suffers particularly from a limited sensor range. The ranges at which they can reliably detect attacking submarines are less than the range at which the submarines can detect and attack the surface ships. ASW sensor range is also less than that of such primary ASW weapons as the SS-N-14, making it extremely difficult for an individual Soviet ship without ASW helicopters to exploit the potential of such weapons fully.

197. The weaknesses of individual ships are overcome to some extent when ships, submarines, and aircraft operate in concert, as they presumably would in the Norwegian Sea, supporting and complementing one another with sensor and weapons coverage. The presence of a Kiev, with its multiple sensors, weapon systems, and command and control capabilities, would provide a significant addition to the capability of the other surface forces. For example, operations by the Kiev's V/STOL (vertical/short takeoff and landing) aircraft would be valuable in thwarting fair-weather attacks from slower NATO aircraft such as the P-3 and in limiting the operations of AWACS (airborne warning and control system) aircraft.

198. According to an alternative view, paragraphs 191-197 should convey a more balanced appraisal of potential effectiveness, in substance as well as in

tone.<sup>31</sup> The holders of this view believe these paragraphs tend to overstress weaknesses inherent in Soviet platforms, such as the relative noisiness of submarines, without offsetting consideration of inherent strengths, such as their relatively high speeds. They further note that any assessment of the potential effectiveness of Soviet submarines, naval aircraft, and surface ships should include consideration of their operation as a mutually supportive force; that this is only partially achieved in paragraph 197.

199. According to this view, paragraphs 191-197, in addition to an essentially negative treatment of Soviet platforms, assess their effectiveness in tactical contexts which convey an impression of NATO capabilities that is maximal and unrealistic. [

] Realistically, the potential effectiveness of Soviet strike aircraft should be measured in terms of a radar coverage, as well as fighter coverage, that would have suffered some degradation in the early stages of hostilities. Likewise, the US sound surveillance system [

] should be expected to suffer early degradation, especially in view of the detailed Soviet knowledge of and concern about its capabilities. Indeed, [ ] links of the SOSUS have, on a number of occasions, been cut and temporarily disabled by unknown shipping.

200. Finally, the holders of this view note that these paragraphs reflect insufficient regard for evidence of demonstrated Soviet naval effectiveness. [

[ ]  
"The holders of this view are the Director, Defense Intelligence Agency, and the Director of Naval Intelligence, Department of the Navy.

## PART D

### THEATER NUCLEAR OPERATIONS

201. Pact nuclear operations against NATO in the European theater could involve:

- Tactical nuclear weapons assigned to Soviet ground and air forces in Eastern Europe and in the USSR and to Soviet naval forces in the three western fleets.
- Soviet strategic systems (mainly medium- and intermediate-range ballistic missiles, bombers of Long Range Aviation, and some ballistic missile submarines) which are based in the USSR and intended chiefly for use against NATO.

202. We have reliable evidence [ ] nuclear force posture, exercise scenarios, and military [ ] on Soviet concepts for nuclear operations against NATO. Although almost all of our information pertains directly to Soviet nuclear operations in Central Europe, we believe that the general operations described below also would apply to Soviet nuclear warfare on NATO's flanks. In any case, for both tactical and strategic systems the primary mission would be the destruction of NATO's nuclear forces.

203. The scope and specific targets of Pact nuclear operations would depend on Soviet campaign objectives, the scale of NATO's nuclear use, and other circumstances. The following discussion is confined to the likely general characteristics of large-scale theater nuclear operations by the Pact.

#### Tactical Nuclear Operations

204. The Pact tactical nuclear arsenal consists of aircraft, missiles, artillery, submarines, and surface ships. Although nuclear weapons are normally carried aboard Soviet submarines and some surface ships during peacetime deployments, the Soviets do not maintain nuclear-armed tactical missiles or aircraft on alert during peacetime. During the period of tension that probably would precede a war in Europe, however, and during any initial conventional phase of such a war, the Pact would take steps to ready its tactical air and missile delivery systems for nuclear operations. Warheads and bombs probably would be dispersed

from storage sites to delivery units. Nuclear warheads probably would be mated to most tactical ballistic missiles at the start of a war and up to one-fourth of Soviet tactical aircraft probably would be withheld from conventional operations as a nuclear alert force.

205. Once the decision to use nuclear weapons was made, all tactical systems probably would come into play and the timing and targeting of tactical strikes would be planned to take advantage of the special characteristics of each system. The primary objective in Soviet tactical nuclear planning appears to be the assured destruction of military targets. Limiting collateral damage does not appear to be a main concern because the numbers of weapons incorporated in Soviet nuclear strike plans have increased over time and the yields of these weapons, particularly for tactical missiles, have increased significantly.

206. The higher yields and greater numbers of weapons [ ] appear consistent with the Soviets' targeting philosophy, which calls for multiple strikes against high-priority fixed targets, mobile targets, or those that are not precisely located. The Soviets may perceive a requirement for greater areas of destruction to compensate for the relatively poor accuracy of their missile systems.

207. [ ]

208. [ ] [ ] we are able to make tentative judgments about how the Soviets would plan to destroy NATO targets during an initial theaterwide strike. Very high yields, in some cases totaling more than 1,000 kilotons, would be delivered by all types of ground and air systems against individ-

ual NATO tactical nuclear units such as Pershing missile battalions. Typically eight to 12 tactical air strikes would deliver 1,100 to 1,300 kilotons against a NATO ground force division. Fighter-bombers and bombers would often be used in this role. Smaller numbers of tactical missiles, often only five or six, could deliver an additional 800 to 900 kilotons against a NATO division. One to four warheads would generally be allocated against smaller targets such as command posts, air defense systems, airfields, and depots.

209. During a coordinated, large-scale initial strike, many tactical missiles probably would be targeted against air defense systems. Tactical missile strikes could precede strikes by tactical aircraft by 15 to 20 minutes. [ ] the Soviets would use aircraft mainly in battlefield strikes in close proximity to Pact forces, presumably because tactical aircraft are more versatile and better able to locate mobile targets than missiles and because the Pact currently does not have nuclear artillery in Eastern Europe. [ ]

210. [ ] USSR would be unlikely to initiate the use of nuclear weapons at sea while a war was being fought with only conventional weapons against NATO in Europe. [ ] predilection of Soviet military policymakers to focus decisions on the developing situation in Central Europe and to avoid actions elsewhere that would jeopardize the campaign there or that would cause an escalation to nuclear warfare. Nevertheless, Soviet general purpose naval forces are normally armed with nuclear weapons during peacetime deployments and would be prepared at the outset of hostilities to conduct nuclear operations if a decision were made to do so. Once authorized, these operations would be directed mainly against important NATO surface ships, submarines, and possibly selected land targets.

211. An alternate view <sup>22</sup> maintains that Soviet nuclear operations at sea would not necessarily await

<sup>22</sup> The holder of this view is the Director of Naval Intelligence, Department of the Navy.

employment of nuclear weapons on land. Should the Soviets perceive a major threat to their security interests or military objectives from NATO carrier formations, they might launch a nuclear attack at sea in the expectation that it could be confined to the sea campaign and would not precipitate the employment of tactical nuclear weapons in the ground campaign.

212. [ ]

[ ] During a conventional phase of a war, the Soviets probably would withhold one-fourth to one-third of their naval aircraft for use in the event of nuclear conflict. Although we have little insight into Soviet concepts for antisubmarine warfare using nuclear weapons, such weapons are known to be carried by some Soviet ASW ships, submarines, and aircraft.

213. Although our knowledge of the Soviet Navy's antiship nuclear targeting plans is very limited, we do have good evidence that multiple attacks on NATO naval task groups are planned. Soviet writings of the early and mid-1960s indicate that four to six cruise missiles with nuclear warheads or nine nuclear-tipped torpedoes would be necessary to ensure destruction of a task group consisting of an aircraft carrier and several escorts. [ ]

#### Nuclear Strikes Against NATO by Soviet Strategic Forces

214. [ ]

215. The prime objective of Soviet nuclear forces in wartime would be to destroy NATO's means for waging nuclear war. Accordingly, a typical target list for the Soviet strategic forces would include NATO nuclear missile sites; airfields used by nuclear delivery aircraft; nuclear weapons storage sites; and command, control, and communications facilities. Other airfields, air defense facilities, large troop concentrations, and conventional storage depots probably are also targeted, as well as some political and economic centers. In all instances, strikes by the strategic forces would be coordinated with those by the Pact's tactical nuclear forces.

216. In Europe there are several thousand military, political, and economic targets in these categories which the Soviets might wish to cover. Military targets range from those that have been extensively hardened to those that are highly vulnerable. We estimate that there are fewer than 300 hardened targets of significant military value in the European NATO countries. About half of these are slightly hardened installations—such as nuclear weapons storage facilities, some POL storage facilities, and ground force depots. The remainder are moderately hard installations such as command posts and the French IRBM silos. The great majority of potential targets in Europe are soft area

targets, including NATO airfields, ports, and air defense facilities.

217. The Strategic Rocket Forces would have a key role during large-scale nuclear operations. Although Soviet medium- and intermediate-range ballistic missiles would be assigned a variety of strategic targets, some sources have indicated they would be primarily used to destroy NATO airfields, air defenses, and command and control facilities beyond the reach of the Pact's forward-based tactical systems. In addition to the MRBMs and IRBMs, some of the Soviet ICBMs might be used against NATO targets in Europe. Ballistic missiles launched from the G- and H-class submarines are not as accurate as most of the land-based missiles and probably would be used against large targets such as ports.

218. The Long Range Aviation bomber force would also be used both during the initial nuclear strike and for followup strikes against targets not already destroyed or attacked. As much as one-third of the LRA bomber force would be withheld from use in conventional operations in anticipation of escalation to nuclear conflict. All LRA bombers based in the western USSR could reach most potential NATO targets directly from their home airfields carrying either bombs or air-to-surface missiles. For most of these targets, the unrefueled combat radius of the LRA bombers is sufficient to permit the use of indirect routing and low-level flight profiles to evade NATO air defenses.



## PART E

### PROSPECTS FOR WARSAW PACT THEATER FORCES

#### Factors Affecting Future Forces

219. In this Estimate we do not provide a detailed analysis of the factors that motivate the Soviets' military policy toward Europe and the development of their theater forces. These factors are discussed in detail in NIE 11-4-78, *Soviet Goals and Expectations in the Global Power Arena*. We proceed from the premise that the developments we currently observe in Warsaw Pact theater forces opposite NATO represent the sorts of activities necessary to maintain and gradually improve the capabilities of these large standing forces. They are the activities necessary to replace obsolete or wornout equipment and to incorporate new weapons and tactics which flow from a vigorous Soviet research and development program. They portend no large, short-term change in the general size or character of these forces.

220. Although we believe this to be a valid premise, we have examined a number of factors which conceivably could alter it. This examination is summarized in the following paragraphs.

#### Soviet Perceptions of NATO's Military Capabilities

221. The Soviets have a keen perception of NATO's forces and military programs and regard its capabilities as substantial and technologically challenging. We believe that they will see current developments in the Western Alliance as portending a continuing strong NATO defense posture, with good prospects for improvement, especially in the critical Central European area. The Soviets are likely to be especially concerned about expected improvements in NATO's precision weapons and nuclear systems. Nothing in current or near-term NATO defense programs, however, is likely to precipitate any major change in the level of Pact efforts. Over the longer term, the large-scale deployment by NATO of a new theater nuclear delivery system, such as ground-launched cruise missiles, could cause an upswing in Pact efforts, especially in air defense.

#### Soviet Leadership

222. Change in Soviet leadership within the period of this Estimate is inevitable. At least in its early phase, however, the change is unlikely to alter the priority given to theater forces. The new leaders, whoever they may be, will undoubtedly emerge from the ranks of the present leadership which are responsible for creating current Pact forces and which are committed to maintaining Soviet military strength in Europe. The new leaders will likely seek to avoid moves that would antagonize large segments of the military.

#### Economic Considerations

223. Since 1970, total Soviet defense spending, which accounts for 11 to 13 percent of the USSR's gross national product, has grown at an average annual rate of 4 to 5 percent. Spending for Soviet theater forces opposite NATO has grown at roughly the same rate and probably will continue to grow into the 1980s. This judgment is supported by several trends in Soviet defense programs, the increasing costs of new, more complex military hardware, the large number of weapon development programs currently under way, and the continuing capital investment in defense industries.

224. We have taken note of the decline in Soviet economic growth and the economic difficulties of such non-Soviet Warsaw Pact countries as Poland and Czechoslovakia. Despite these difficulties, we find no evidence that suggests the Soviets anticipate cutbacks in allocating resources to theater forces. Indeed, we have good evidence that some NSWP countries plan modest increases.

#### Demographic Factors

225. In every Warsaw Pact country the military manpower procurement system depends on conscription. Conscripts provide up to 75 percent of the manpower assigned to the regular armed forces, the border guards, and some elements of the internal

security forces. During the next decade, however, the number of young men reaching draft age each year will decline in most Pact countries, a trend that will complicate the allocation of manpower between the armed forces and industry.

226. Pact military manpower requirements are expected to increase only modestly in the next 10 years. Even so, there may be shortfalls in available military manpower. The Pact countries could meet such shortfalls by changes in their manpower procurement systems. They might also attempt to persuade more conscripts to extend their service.

227. We do not believe that the manpower squeeze will lead to any decline in future Pact military manpower. We expect that most Pact countries, the USSR included, will meet their projected military manpower needs by some combination of available options. Some are already calling reservists who had previously been exempted to active duty for up to six months. Fewer deferments are being granted, and the grounds for medical exemption have been defined more clearly and strictly. In a few Pact countries, those persons found unfit for combat duties are being placed in sedentary military positions rather than being exempted.

#### Technology

228. We foresee no technological breakthrough that could lead to a major change in either the size or character of the Pact theater forces during the period of this Estimate. New technology, whether developed, purchased, or illegally acquired, is expected to lead to improvements in individual Pact systems and help redress major deficiencies, but no one development or even a combination of technological developments in the foreseeable future is expected to revolutionize modern warfare or provide a decided advantage to Pact forces.

#### Sino-Soviet Relations

229. The size of the Soviet forces opposite China—nearly 25 percent of the total theater forces—suggests a potential for some impact on the forces facing NATO. There is no evidence, however, that the burden of maintaining forces against China has seriously constrained Soviet military posture in the west in recent years, and we do not anticipate such an effect in the foreseeable future. Short of a rapprochement with China, which could release some resources for

defense in the west, or a war with China, which would, at a minimum, absorb much of the Soviet troop and logistical reserves in the western and central USSR, we believe the Soviets can continue to support both efforts at present or even modestly greater levels.

#### Implications for Future Pact Theater Forces

230. Although the expansion in manpower which characterized Pact theater forces during the mid-1960s and early 1970s has slowed, we expect some gradual increase in manpower in Pact ground and air combat units opposite NATO over the next decade as ongoing programs are implemented. The overall number of ground and air combat units opposite NATO is expected to remain at or near its current level, while a modest decline is anticipated in the number of general purpose naval ships and submarines.

231. Warsaw Pact nations will continue to improve the weapons and equipment in their theater forces opposite NATO. Major weapon production and deployment programs which are clearly in midstream are expected to continue. In addition, the Soviets will no doubt seek to develop some entirely new weapons and support systems. Certain of these systems, such as laser or television-guided munitions, are already in testing. Still other Pact weapons—such as enhanced radiation weapons and advanced cruise missiles—may emerge in reaction to NATO weapons programs or force improvements.<sup>44</sup>

232. As the modernization of the Pact's theater forces equipment progresses, we expect continuing standardization problems. For example, the Soviets are currently producing three different medium tanks while retaining older models in the inventory. This situation leads to other problems in that the mix and growing technical complexity of models in the forces require additional mechanic and operator training and more elaborate logistic arrangements.

#### Ground Forces

233. Barring an agreement on mutual and balanced force reductions (MBFR), the number and disposition of Pact ground force divisions opposite NATO are likely to remain stable during the period of this Estimate, although expanded divisional organizations and the formation of new nondivisional units probably

<sup>44</sup> More complete discussions of specific Pact ground, air, naval, and theater nuclear systems which are likely to enter service over the next decade or so are contained in volume II, chapter VI.

will account for moderate increases in manpower and equipment. We foresee no development over the next several years which would appreciably alter the basic Pact strategy of an armor-heavy offensive against NATO in Central Europe. Despite NATO's substantial and growing capability for antitank warfare, Pact planners will continue to regard the tank as the backbone of their ground assault forces. Considerable emphasis will be placed throughout the 1980s on modernizing the tank forces.

234. Improvements in other areas probably will also be stressed over the next decade to give Pact armored forces a better chance to survive on the modern battlefield. These almost certainly will include new artillery and air defense weapons. The increased use of smoke and aerosols to interfere with optical and electro-optical surveillance and tracking devices of NATO antitank weapons is also expected. Against antitank helicopters the Pact probably will enlarge its use of tactical SAMs, antiaircraft artillery, and other helicopters.

235. We are monitoring one development in particular with potentially significant implications for the Soviet ground forces during the coming decade. Over the past year the Soviets have reconfigured two divisions, each of which has three tank regiments that have been augmented with organic infantry and artillery battalions. The divisions' motorized rifle regiments have been disbanded, and other subordinate units have been modified. The changes will improve the combined-arms capabilities of the tank regiments and increase their firepower. The overall personnel requirement for the new structure probably will not greatly exceed that of the 9,500 men in a standard Soviet tank division.

236. We have no evidence regarding the extent to which the Soviets intend to so restructure additional divisions. We also note that the Soviets are engaged in a program to expand some standard tank divisions by adding infantry and artillery to the tank regiments, but without disbanding the division's motorized rifle regiment. At best, therefore, our evidence thus far indicates only that the Soviets are experimenting with different ways of improving the tank-infantry-artillery balance in their tank divisions but have not yet settled on which alternative, or combination thereof, will be emphasized during the 1980s.

237. We expect Soviet production of the T-55 and T-64 tanks to end within the next few years. Produc-

tion of the T-72 is expected to continue. A new tank, the T-80, is expected to enter service by the early 1980s, but our evidence on its current status is fragmentary. The NSWP armies will remain largely standardized on the T-55.

238. Pact concern with increasing conventional firepower in general and with the neutralization of NATO antitank defense in particular is expected to result in continued increase in numbers of artillery pieces as well as improvements in weapons, target acquisition capabilities, and ammunition. The upgrading of the artillery battery in the Soviet motorized rifle regiment to an artillery battalion—a measure already well under way—has improved the regiment's capability to suppress or neutralize antitank weapons as well as other targets. As towed artillery is replaced by self-propelled (SP) models, this capability will grow further because the new systems have better mobility, are more responsive, and provide better crew protection.

239. The new SP heavy artillery (203-mm guns and 240-mm mortars) will continue to replace older towed weapons in Soviet heavy artillery brigades and may supplement or replace lighter weapons in army artillery regiments and in artillery divisions. NSWP artillery improvements will lag behind those of the Soviets. The number of SP guns in the East German, Czechoslovak, and Polish Armies will increase, but towed models will continue to predominate.

240. We have fair evidence that the Soviets are working toward development of improved conventional munitions (ICMs) for their tube artillery systems. We estimate that by the mid-1980s they will field ICMs with their larger caliber weapons.

241. Soviet R&D programs for antitank weapons are being directed toward development of missile systems incorporating semiautomatic or automatic guidance to relieve the gunner of guidance responsibility, thereby increasing hit probabilities and reducing gunner vulnerability. These programs are expected to result in the fielding of a short-to-medium-range, man-portable system incorporating remote guidance by the mid-1980s and a similar heliborne system somewhat earlier.

242. The Soviets are likely to continue the advances which they have made in air defense weapons over the last decade. Existing systems will no doubt undergo modification and improvements. A follow-on to the



ZSU-23-4 is expected in the next decade, but probably not before the mid-1980s. We also expect deployment of a successor to the SA-6, the SA-X-11, probably within the next year. Its main improvements over the SA-6 will be the integration of the target-tracking radar and missile launcher in a single unit, greater mobility, better capabilities for electronic counter-countermeasures (ECCM), and a multiple target-handling capability.

243. Surface-to-surface ballistic missiles are expected to play an increasingly important role in Warsaw Pact planning for conventional combat during the period of this Estimate. New missiles such as the SS-21 have characteristics which give them a significant conventional capability. The SS-21, for example, could be used effectively with ICM in an air defense suppression role. Near the end of the period of this Estimate, tactical ballistic missiles equipped with terminal guidance and conventional, earth-penetrating submunitions will pose a serious threat to NATO airfields.

#### Air Forces

244. *Tactical Air Forces.* We believe that the number of fixed-wing aircraft in Soviet Frontal Aviation opposite NATO will remain essentially unchanged over the next decade. Efforts to improve the quality of Soviet tactical aircraft and munitions are likely to continue, although the rate of new aircraft deployment is expected to slow as the Soviets meet their current force objectives. Furthermore, we expect the Soviets to continue improving their support and subsidiary systems such as command and control, radioelectronic combat (REC), and reconnaissance data link systems. No major changes are expected in the number of fixed-wing aircraft in the NSWP air forces. NSWP equipment modernization will continue to proceed gradually and be driven largely by economic considerations.

245. Production of the MIG-23 Flogger probably will continue well into the 1980s. A variant of the Flogger with an improved radar designed to give it a better low-altitude intercept capability is being developed and could be deployed with the Soviet tactical air forces by the early 1980s. Production of MIG-21 Fishbed variants is also expected to continue at least into the early 1980s. NSWP tactical fighter units are expected to receive mainly Floggers and late-model Fishbeds over the next decade.

246. Longer term improvements in Soviet fighter capabilities could arise from the introduction of a totally new aircraft. The Soviets are testing at least three new or highly modified fighter-type aircraft, one of which is intended for deployment with the Soviet strategic air defense forces. Should either or both of the other aircraft be deployed with the tactical forces, they would not be available in significant numbers before the mid-1980s.

247. We expect deployment of a new ground attack aircraft—designated the SU-25—with the Soviet Air Force by 1980 and believe that it will be purchased by some NSWP countries. The SU-25 is a twin-engine, subsonic, heavily armored aircraft, presumably designed for close air support of ground forces. The aircraft apparently does not incorporate advanced technology and is considerably slower and has a lesser combat radius than the SU-17 Fitter C/D and MIG-27 Flogger D. But it will be armed with guns, rockets, bombs, and tactical air-to-surface missiles, and will almost certainly handle better at low speeds than the other Pact fighter-bombers.

248. Soviet ground attack units opposite NATO will be totally equipped with newer aircraft—SU-25, Flogger D, Fitter C/D, and Fencer—by the early 1980s. Within five years over one-half of the aircraft in NSWP ground attack units probably will be more modern types. The SU-25 and Flogger will be the main ground attack aircraft in NSWP air forces by the end of the next decade.

249. *Military Air Transport.* Soviet Military Transport Aviation (VTA) will continue to be modernized with newer aircraft, but the size of the force will not appreciably change. Although overall lift capacity will increase, the Soviets do not appear to be building a force capable of simultaneously lifting much more than one airborne division or the assault elements of two divisions.

250. The AN-12 Cub medium-range transport will remain the mainstay of the airlift force, at least into the mid-1980s, although its numbers will continue to decrease as the IL-76 Candid enters the force. The Soviets will continue to rely on the AN-22 Cock, which is no longer in production, to lift outsized military equipment. We also expect the Soviets to continue relying on Aeroflot for airlift augmentation, and this capability will increase as the civil air fleet is modernized.

251. A new transport, the AN-72, will probably be operational in Frontal Aviation units in the early 1980s. This aircraft, which is optimized for short-haul operations from unimproved airfields, will enable cargo and personnel to be delivered close to deployed field forces.

252. *NSWP National Air Defense.*<sup>34</sup> We have good evidence that non-Soviet Warsaw Pact countries plan to undertake a major program to reequip their national air defense forces. The program is scheduled to run into the mid-1980s and is designed to remedy what the Pact considers to be the growing obsolescence of its surface-to-air missile and interceptor forces. Though intended primarily to improve defense against low-altitude targets, the modernization effort would also entail the introduction of systems that would extend the range and ceilings at which targets could be engaged.

253. The Pact's early warning network is scheduled to be reequipped with newer radars having improved capabilities for target information handling and data transmission and greater resistance to electronic countermeasures. Some Pact countries might also receive radar-equipped ships or possibly aircraft to extend early warning coverage over water approaches to Pact territory. NSWP SA-2 and SA-3 systems are to be upgraded with equipment more resistant to electronic jamming and possessing better capabilities to engage targets with small radar cross sections. The SA-5, a long-range SAM system that has heretofore been deployed only in the USSR, is also being considered for deployment in some NSWP countries. The most notable development affecting Pact interceptor forces would be the continued introduction of Floggers equipped with a fire-control radar providing a limited lockdown/shutdown capability. While this aircraft and late-model Fishbed will be the mainstay of the force, Pact planners are also considering equipping some NSWP interceptor units with the MIG-25 Foxbat.

254. Our evidence of Pact plans to deploy the Foxbat and SA-5 with the NSWP air defense forces indicates that both would be intended primarily to counter the growing capabilities of NATO's air forces for standoff air-to-surface missile attack. The evidence also suggests that these systems might be used to engage such NATO aircraft as the E-3A AWACS.

<sup>34</sup> See NIE 11-3/8-78 for a discussion of the Soviet strategic air defense forces.

#### General Purpose Naval Forces

255. During the next decade, developments in the Soviet Navy will produce a force with improved capabilities to perform its peacetime and wartime missions. The Soviets will also press forward with programs to correct shortcomings in submarine detection, fleet air defense, logistic support, and communications. Indeed, developments over the past decade have been so rapid that a period of time may be required to integrate and consolidate advances and ensure that combat potentials are fully realized. We expect a modest decline in the overall number of Soviet general purpose naval ships and submarines but newer and more capable units will be replacing older and less effective ones.

256. We expect the Soviet Navy within the next decade to continue concentrating on the missions outlined in volume II. We also anticipate that its current roles of sea control in limited areas and support of Soviet overseas policies will continue to evolve. Improvements in antiship, amphibious, and antisubmarine warfare (ASW) capabilities are also likely. Moreover, we foresee that by the mid-1980s the Soviets will have made some progress in such current problem areas as logistic support and the ability to conduct sustained operations. The result of this process will be a somewhat more capable Navy which will remain an integral element of Pact planning for war in Europe. We believe, however, the Soviets will continue to have problems in detecting enemy submarines, in defending their surface ships against air attack, in providing targeting assistance for the effective use of many ASW and antiship weapons, and in replenishing ships at sea.

257. The Soviet Navy will also continue to devote resources and develop tactics for preventing the approach of NATO's carrier task forces or other major surface ship formations into waters contiguous to the European theater. As new cruise-missile-equipped ships, submarines, and aircraft replace less capable units and the technology of cruise missiles is advanced, we expect the Soviet capabilities against those NATO forces to improve. Reliance on external targeting will, however, remain a serious deficiency in beyond-the-horizon attacks.

258. Antisubmarine warfare will remain a serious concern of the Soviet naval leadership. Soviet ASW capabilities will improve somewhat with the acquisition of new classes of surface ships, submarines, and



aircraft and as new technology and better operating techniques take hold. These capabilities will continue, however, to be greater in areas closer to the Soviet homeland than in the open ocean. Although there are gaps in our knowledge of Soviet ASW developments, we have no evidence of any major breakthrough that would give the Soviets confidence in their ability to neutralize Western submarines in the open ocean.

259. The Soviets are also committed to protecting their own submarines from NATO naval forces, particularly their D-class SSBNs operating in the Barents and Norwegian Seas and other areas. This mission has received attention in Soviet naval literature [

We expect the Soviets to continue working to improve their capabilities to support and protect their SSBNs.]

260. Support for ground forces in the context of a general European war will continue to be an important mission of the Soviet Navy's general purpose forces. In addition to protecting the seaward flanks of the ground forces from attack by enemy sea-based air or naval forces or by enemy amphibious assaults, the Navy has the role of providing gunfire support for ground forces and launching amphibious operations against enemy flanks. This role will have some influence, albeit limited, on the future composition and force levels of the fleets. Some older units will be retained and some new systems, including air-cushion vehicles and hydrofoils, will be allocated to these flank support missions.

261. Soviet capabilities to interdict NATO's sea lines of communication (SLOC) by attacking ships at sea and by mining and airstrikes against European port facilities probably also will improve. This will result from the increased capabilities that will likely exist in future Soviet general purpose submarines, mine warfare ships, and naval aircraft. Some agencies believe, however, that Soviet capabilities to perform this mission will nonetheless remain limited. Other agencies believe that Soviet capabilities for SLOC interdiction currently are and will continue to be significant.<sup>35</sup>

<sup>35</sup> For a discussion of differing views on Soviet intentions and capabilities to interdict NATO's sea lines of communication, see volume II (paragraphs 142 through 149 of chapter II and 168 and 169 of chapter IV) and part B of this volume. Volume II also discusses differing agency views on the likely maximum submerged speeds of some future Soviet submarines and on the propulsion of a new combatant under construction at Leningrad.

262. We have considered what the acquisition of aircraft carriers portends for the future of the Soviet Navy and can arrive at no agreed estimate. Two Kiev-class carriers are operational, and a third has been launched and will probably become operational in 1981. A fourth carrier of this class is being built. We also have some information suggesting that upon completion of the Kiev-class program the Soviets will begin construction of a new and larger class of aircraft carrier, possibly incorporating an arrested landing capability.

263. The Kiev clearly has capabilities in ASW and in other areas of naval warfare such as antiship strike, area air defense, and perhaps support for amphibious attack. We do not know how the Soviets assess the overall value of the Kiev inasmuch as the capabilities of its aircraft are limited. It will take a lengthy period of time for Soviet crews to become proficient in the complex procedures of carrier flight operations and to develop appropriate tactics for carrier operations in conjunction with other ships. It is apparent that the Soviets have made a commitment to the construction of aircraft carriers, although general purpose submarine construction will absorb well over half of what the Central Intelligence Agency projects will be total Soviet expenditures for general purpose ships and submarines through the mid-1980s.

264. There is disagreement within the Intelligence Community, however, regarding the extent to which the Kiev enhances current Soviet military effectiveness and regarding the impact of Soviet acquisition of carriers upon the evolution of naval missions. According to one view,<sup>36</sup> the introduction of the Kiev may constitute a major turning point in the development of the Soviet Navy, but it is premature to judge the impact of the acquisition of carriers upon the evolution of naval missions. Some holders of this view<sup>37</sup> further believe that one, two, or three ships of this class, because of their limited capabilities to detect NATO submarines beyond torpedo attack range and to defend against NATO air attack, do not by themselves represent a significant improvement in Soviet capabilities to fight a war with NATO. They also believe that the Soviet naval leadership has chosen an

<sup>36</sup> The holders of this view are the Central Intelligence Agency; the Director, National Security Agency; and the Director, Bureau of Intelligence and Research, Department of State.

<sup>37</sup> The holders of this view are the Central Intelligence Agency and the Director, Bureau of Intelligence and Research, Department of State.

option which is more significant for the future of the structure of the Navy than for the enhancement of current military effectiveness.

265. According to an alternate view,<sup>33</sup> the acquisition of carriers with the introduction of the Kiev clearly constitutes a major watershed in the development of the Soviet Navy. The holders of this view further believe that the Kiev already has influenced the acquisition of other future surface combatants, and enhances Soviet antiship, ASW, and other capabilities to an extent that could have significant influence on Pact naval operations in a NATO-Warsaw Pact war. The construction of the Kiev class and possibly a larger carrier class in the 1980s will provide added impetus to the Soviet Navy's gradually expanding role in achieving sea control and in providing support to amphibious operations.

#### Theater Nuclear Forces

266. Over the next decade the Soviets will continue their ongoing programs to improve their peripheral strategic strike forces and to eliminate the imbalance in battlefield nuclear capabilities they perceive in the European theater. Force improvements carried out to date and ongoing deployment of new systems are increasing the flexibility with which the Soviets can employ their theater nuclear forces. In particular, they are acquiring low-yield tactical nuclear weapons and delivery systems with sufficient accuracy to permit employment in close proximity to Pact forces.

267. *Tactical Nuclear Forces.* The Soviets will continue to improve the quality of their tactical ballistic missile forces by deploying new missiles, introducing improved guidance systems, and increasing the number of weapons in tactical units. Deployment of the SS-21, the replacement for the FROG division-level weapon, will continue at least through the mid-1980s; its deployment with Soviet forces in Eastern Europe could occur at any time. The deployment of the SS-22 as a replacement for the SS-12 front-level missile system also is probably under way and will continue until all 12 SS-12 brigades are reequipped.

268. Increases in Soviet tactical missile forces opposite NATO are expected over the next several years.

<sup>33</sup> The holders of this view are the Director, Defense Intelligence Agency, and the Director of Naval Intelligence, Department of the Navy.

Three Soviet Scud brigades in East Germany have already been increased from 12 to 18 launchers. If all Soviet Scud brigades in Eastern Europe are similarly augmented—as probably will be the case—the force will have an additional 66 launchers, bringing the total there to 198 Scud launchers. We are unable to predict whether Scud brigades in the USSR will also be expanded. We have recent evidence that the Soviets plan to increase the number of tactical missile launchers in their divisions from four to six as the SS-21 replaces the FROG system. The increases in both Scud and SS-21 launchers would provide the Soviets with greater firepower and flexibility during conventional and nuclear operations.

269. A probable replacement for the Scud, the SS-X-23, is in an early stage of development. The first flight test of this missile was observed in October 1977. This system, which is expected to have improved accuracy and reduced reaction time over the current Scud systems, could reach operational status by 1982.

270. In the Pact tactical air forces, the potential for nuclear delivery is expected to grow as the aircraft modernization programs progress over the next decade. In addition, the availability of low-yield warheads and improved air-to-surface missile guidance systems could induce the Soviets to field an air-delivered tactical missile with a nuclear capability during the latter part of the 1980s.

271. The number of pilots in Soviet units qualified to drop nuclear bombs is also expected to grow, particularly in the fighter-bomber regiments, as the level of pilot experience and proficiency increases and nuclear delivery training is broadened. We do not expect the number of such pilots in the NSWP units to grow, however, because nuclear delivery training probably will continue to be confined to a few specially designated units.

272. The Soviets are expected to continue reequipping their heavy artillery brigades in the USSR with the nuclear-capable 203-mm self-propelled guns and 240-mm self-propelled mortars. All six such brigades opposite NATO are expected to complete the reequipping process within the next several years. It also seems likely that the Soviets will deploy some nuclear artillery to Eastern Europe during the period of this Estimate. The Soviets probably have the technological capability to develop a 152-mm nuclear artillery round, but we have no reliable evidence that they intend to develop and field such a weapon.

273. *Peripheral Strategic Forces.* The Soviets will continue to rely heavily on land-based ballistic missiles to conduct strategic nuclear strikes in the areas surrounding the USSR. Some intercontinental ballistic missiles probably will continue to have peripheral missions, but the SS-20 intermediate-range ballistic missile will be the backbone of the peripheral force. There is evidence that in late 1975 the Soviets were considering a plan to field a force of up to 28 SS-20 regiments. [

eventually there will be at least nine SS-20 launchers per regiment. We project a total force of 250 to 300 launchers, and we estimate that such a force could be fully deployed by the early 1980s. We also project that the Soviets will begin fielding a modified version with a more flexible payload and improved accuracy shortly thereafter. As a result, we project a total force of about 300 mobile IRBM launchers from 1984 onward. About 200 of these will be deployed in areas opposite NATO. (See table 4.)

**Table 4**  
**Projected Soviet Peripheral Strike Forces**  
**Opposite NATO \***  
**1979, 1983, and 1988**

	1979	1983	1988
MRBMs and IRBMs			
SS-4 Launchers	384	140	0
Silo	64	56	0
Aboveground	320	84	0
SS-5 Launchers	61	51	0
Silo	27	27	0
Aboveground	34	24	0
SS-20	45-63	171	27
SS-20 Mod B	0	9	171
Bombers of Long Range Aviation			
TU-16 Badgers	325	300	250
TU-22 Blinders	155	140	100
Backfires	45	115	160
Ballistic Missile Submarines/Launchers <sup>b</sup>			
SS-N-4 (G-I)	1/3	0	0
SS-N-5 (G-II)	6/18	3/9	0
SS-N-5 (H-II)	4/12	0	0

\* For a more detailed treatment of the peripheral strike forces, the implications and possible constraints of a SALT agreement, and alternative projections of future peripheral strike forces, see NIE 11-6-78, *Soviet Strategic Forces for Peripheral Attack*.

<sup>b</sup> Some of the modern Y-class submarines probably have contingency missions for peripheral strike. As the number of older ballistic missile submarines with peripheral missions declines, some of their target coverage may be assumed by modern ballistic missile submarines.

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274. Our force projections assume that the size of the Long Range Aviation bomber force with a peripheral attack mission will remain about the same as at present. Some aging Badgers and Blinders probably will be retired as Backfires are assigned to LRA in increasing numbers. By the late 1980s about 270 Backfires could be in service with LRA if the rate of production increases as projected. One constraint being considered at the strategic arms limitation talks (SALT) is a limitation on the rate of Backfire production. If this enters into effect, LRA could have almost 200 Backfires in 1988, of which about 160 would be deployed opposite NATO. In the near term, we expect Backfires to be deployed primarily with LRA units in the European USSR, enabling some Badgers, especially those capable of delivering both bombs and air-to-surface missiles, to be transferred to the Soviet Far East.

275. The number of older ballistic missile submarines for peripheral strike probably will decline during the period of our projections. The Soviets probably will continue to convert their G-I submarines to attack or special-purpose submarines or retire them. We estimate that some of the G-II submarines, which are targeted against the peripheral areas, will be in the force until the mid-1980s, but the last G-II probably will be deactivated before 1988. The future of the H-II submarine as a ballistic missile system is in doubt because of the constraints of a prospective SALT agreement.

276. As the number of older ballistic missile submarines with peripheral missions declines, some of their target coverage may be assumed by modern ballistic missile submarines. The range of the missiles carried by these modern SSBNs gives them greater targeting flexibility than the G- or H-classes.

#### Support Systems and Forces

277. *Command, Control, and Communications.* We estimate that, currently, about one week would be required before the Pact's wartime communications links could be established to theater-level headquarters and to supporting strategic commands. Communications, between Moscow and the fronts and within the fronts, to control combat operations by divisions and armies could be effectively established within a few days. However, the Pact has two programs under way—the creation of a centralized command structure and the establishment of a unified communications system—which, during the period of this Estimate,

could shorten the time required by the Pact to get its command and control system prepared for war. The two programs are intended to establish in peacetime the theater-level (High Command) resources needed to control Pact forces once they are released from national control. We estimate that the centralized command structure could be complete by the early 1980s. The unified communications system could begin to improve the Pact's command capabilities by the mid-1980s, but it is not scheduled for completion until 1990.

278. While the Pact is expected to achieve a more centralized command system through the creation of permanent theater commands, the Soviets probably will not control the day-to-day peacetime operations of NSWP forces. The centralized control structure would, however, enable them to assume more quickly wartime control of Pact forces, once authorized by NSWP leaders. The theater commands would also

plan wartime operations and control forces during exercises. Hardened command and communications centers which could be used by theater commands have already been constructed, and more are planned.

279. The Pact made the decision in 1974 to create by 1990 an integrated communications system to provide high-capacity communications for Pact forces, to include theater commands. This new system—referred to by the Russian acronym VAKSS—is a civilian network which also will provide the Pact with its first integrated communication system with the increased communications capability and connectivity necessary to support the developing centralized command structure. The VAKSS program is an ambitious one, however, and may meet some resistance from NSWP countries—particularly Romania—which could delay completion, even though most of the developments specified for VAKSS probably are within the Soviet and NSWP technological capabilities.



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